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Sketch-Book, No 5.

From September 7th 1836

To November 7th 1836.

Including crude Essays, and first
thoughts.

"If along with this habit [of study] there be cultivated the practice of constantly writing such views as arise, we perhaps describe that state of mental discipline by which talents of a very moderate order may be applied in a conspicuous and useful manner to any subject to which they are devoted. Such writing need not be made at first with any great attention to method, but merely put aside for future consideration; and in this manner the different elements of a subject will develop and arrange themselves as they become in a manner equally pleasing and wonderful."

Whewell's "Inquiries concerning
the Intellectual Powers and the
Investigation of Truth"

Niagara Falls absent of page 114

Frost - same one. (1836)

cont.

1 In our last notice of the weather,
September 2. (N^o 4) we expressed apprehensions of a destructive frost, from the remarkable coldness of the night which had sometime prevailed; and on the night of the 6th of September a pretty severe ^{one} ~~frost~~ occurred which nearly destroyed some pieces of Broom Corn, particularly in the low and moist parts of our meadows, and some of the garden plants. In some places the tops of the Indian Corn were killed, but I think the ears were not much damaged. The consequent loss of the Broom Corn will be considerable. The tops of some of our Stratazipes show the effects, by putting on the yellow and red hue of autumn, while others are wholly untouched.

of the effect of the frost in the hill towns, we are not surprised. ‡

From the general principle that the temperature decreases according to elevation, we might suppose that frosts would first occur on high lands; but this is not always the case. Moisture seems to have a hand in the ^{production} ~~occurrence~~ of frosts, since the lowest and most damp parts of our valley first experience their effects. a solution of this is desirable.

In an Essay on Dew, by Dr Wells of Exeter, we have some facts which afford a clue for an explanation of the rationale of frosts.

It has been observed that dew is always most copious during ~~clear~~ clear and calm nights; and that it is accompanied with a reduction of temperature. The Dr seems to have established these facts. By a great variety of experiments he proves that

dew is never formed upon any substance until the temperature of that substance has been reduced below the temperature of the surrounding atmosphere; and that the cold which accompanies dew, precedes instead of following the production of that fluid. He proves also, that the surface of the ground, as well as other bodies, has its temperature reduced below that of the atmosphere, by being freely exposed to the clear sky, and that whatever screens it from this exposure, prevents the reduction of temperature. Thus on ~~the~~ clear & calm nights, a thermometer, in contact with the grass frequently stood from 7° to 12° , and on one occasion 15° lower than another situated 4 feet above the surface; and that two thermometers which were both in contact with the grass, one being freely exposed, and the other sheltered by a screen of pasteboard, the former sometimes indicated a temperature 10° below the latter. In cloudy weather, and when there was wind, no great difference

was observed in the thermometers; but in such weather, a clear interval seldom failed to produce a great reduction of temperature on the surface of the ground, while a passing cloud over a clear sky generally raised the thermometer on the grass several degrees. He further observed, that when bodies which had been equally exposed to the air, were examined at the same time, those which had suffered the greatest reduction of temperature had also collected the greatest quantity of dew; and that substances which had been exposed to the sky were uniformly more dewy than those which had been screened.

By placing 10 grains of wool on the grass covered with a pasteboard screen shaped like the roof of a house, the ends open, and another quantity of the same weight on another part of the grass, uncovered, he found in the morning, that the sheltered wool had increased its weight only

2 grains; but that which had been exposed to the sky, 16 grains.

The opinion that dew is produced ^{entirely} by vapour emitted from the earth and vegetable substances, has been satisfactorily refuted by the Dr., at least in so far as he has demonstrated, that a great proportion of it is deposited from the atmosphere.

From the experiments which Dr. Wells has made, he deduces the following theory of the production of dew.

viz. "On the commonly received and well established fact, that bodies have a tendency to throw off caloric by radiation to other bodies, whose temperature is lower, he supposes the earth is continually radiating its heat to the high and cold regions of the atmosphere; that, in the day time, the effects of this radiation are not sensible, being more than counterbalanced by the greater influx of heat from the direct influence of the sun; but that during the night, when the counteracting cause is removed, these effects

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effects become sensible, since from the reduction of temperature above stated, mist, which clouds interpose, which operate as a screen in arresting the rays of heat. When cloudy the Dr thinks heat may be radiated from the clouds to the earth.

When the temperature of the ground, after the deposition of moisture has taken place, is at or below 32° , the dew is congelated, and becomes hoar frost. Since according to the above experiments this may happen when the temperature of the atmosphere a few feet above ~~the~~ is considerably above 40 degrees.

If the theory of the Dr be admitted as correct, and it can be shown that radiation in low moist ground, is more copious than from that which is higher & drier, we may explain why the former are more subject to frost than the latter.

Moreover, if it be true, as is asserted, that vapour when passing from the

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uniform to the fluid state, gives out
instead of absorbing caloric; we may
account for the coldness felt when
we enter the fog of a valley in the evening
or morning, when it is formed: as the aeri-
form vapour condenses, separates from the
atmosphere and forms fog, the caloric
escapes into the surrounding atmosphere
and leaves the fog at a lower temper-
ature than the adjacent air.

For a more full view of this subject,
See the article meteorology in the 13th
Vol. Edinburgh Encyclopaedia, page 105.

2. Clearing a Country of its Native Woods.

Whether this operation has any effect
on the climate of a Country has often been
made a question, and without any facts
other than my own experience, I should
express the affirmative ^{side} of the question.

Our summer showers are less severe have
changed their point of rising and are
warmer seasons have abated in some de-
gree. Our winter ~~now~~ ^{now} with the
reception of the East ~~now~~ ^{now} less, and generally
the

air, ^{of a higher temperature} of a higher temperature. These facts are according to my own recollection; but they do not accord with the expectations of many others, who are of opinion that the countries in the northern hemisphere are becoming colder than they were formerly.

Mr. William Maclure in his observations on the Geology of the United States says: "The clearing away of the woods, favors the accumulation of heat in the earth, but decreases the quantity of vapour that in passing would be condensed into rain. It would therefore seem to be prudent in such countries, not to clear more land than is properly necessary, and on no account to cut down the trees that crown the tops of the hills and mountains; for by leaving their tops, the summer temperature will be so much increased, that the clouds will pass over them without ^{the same} clearing; and the effects will be similar to those produced by cutting away the woods in the west Indies, though

not in so great a degree. See Transactions of the American Philosophical Society, held at Philadelphia, Vol. 1. new Series. p. 65.

I have said, our warm seasons have abated since our winters, in general, become less cold. Mr. Maclure's theory militates against this supposition. But admitting that clearing away the woods will allow the sun's rays to act with greater force on the surface of the ground, may not other causes prevent an increase of temperature in the summer season?

According to Dr. Wells' theory, the radiation of heat from the surface of the ground, must be greater in open than in covered countries, and consequently, in the night, the ground will be more cooled than where it is covered with woods. May not, also, the ^{increased} evaporation from the surface of open ground in the day time, produce the same effect?

One other counteracting cause may be mentioned. If it be true that the surface of the ground in open countries, becomes more heated in the day time than

them in covered countries, according to the theory of Maclure, may not this heated air rise to the higher regions of the atmosphere, and thereby produce a descent of the colder air in those regions, like the heated fluid ~~from~~^{at} the bottom of a vessel over a fire, as in the experiments described by Count Rumford in his Philosophical Essays?

Descents of the cold air of the upper regions of the atmosphere have a sudden effect on the temperature of the lower air; and I think our sudden changes from heat to cold, are often produced by this cause. In hot weather when a sudden shower occurs, the lower air shaded by the clouds is cooled, & the cold water which falls producing the same effect, the upper air rushes down to restore the equilibrium. Instances have occurred within my observation, in which a narrow shower passing over one mountain, has caused ~~so~~ such a rapid descent of the upper air, as to produce full grown Indian Corn, in opposite directions. And it is

not uncommon when a Shower passes north or south of us: at no great distance, to observe the Vane on our Stubble varying its direction, say, from NW round to the S.E. keeping its head directed towards the centre of the Shower, a proof that the wind proceeds from that point in perhaps, all directions, once that it is caused by a descent of the air from the upper regions of the Atmosphere.

If then the state of the atmosphere be altered, by cutting away the woods of a country, it follows that this operation must have some effect on its climate; and whether the causes which have been assigned shall increase or diminish the heats of our summers is left to the decision of the natural philosopher.

Some European writers have endeavoured to show that their supposed decrease of temperature in their climates, is caused by an accumulation of ice in the polar regions; and that this deterioration will continue, once finally under northern countries unfit for the cultivation of some plants which now come to maturity.

3. Of vegetable Mould & Morasses.

"The quantity of this mould found in a soil is considered as a criterion of its richness." In new countries which have not been cleared, a large quantity of this mould is found upon the surface, deposited by the trees which overspan it; and it sometimes happens that the quantity is at first too great to admit of a crop of wheat, in which case some other crop should precede it. Many parts of New-England where the land ^{at first} was covered with this mould, are now almost barren fields, and require great quantities of manure to restore them to a due degree of fertility. Where the ~~subsoil~~ soil is ~~composed~~ ^{constituted} of decomposed rocks which contain in their elements ^{some} food for plants, they in some degree, be restored to its original fertility by the application of manure; but where the ~~subsoil~~ soil is destitute of these principles, as is the case with soils composed of most of the primitive rocks, the land is of little value after the vegetable mould is exhausted.

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Hence, ^{on} primitive hills where granite rocks abound, the land must be poor unless great quantities of manure are applied. In such countries, however, many low plains are found presenting morasses where there is a good proportion of vegetable moulds, washed in from the hills, and partially covered with water. These, where it is possible, should be drained and cultivated, and when well managed, will be excellent lands. Where these lands are encompassed by hills of small extent, or limited bases, and low grounds may be found beyond them, ^{the} expense of a tunnel under them, may be within the rules of economy. In many instances barely lowering the beds of streams which head from morasses, may be sufficient for draining off the water from extensive & valuable tracts.

These hints are considered as important for many parts of New-England where barren hills already present to the eye of the traveller, extensive tracts of a dreary and repulsive aspect. As ~~the~~

As it may be of use for the farmer to know the chemical process by which the quantum of vegetable matter in a soil, is determined, we add the following. A mass of the soil is thoroughly dried and then carefully weighed; the mass is then exposed to a red heat in a furnace, cooled and again weighed. The difference between the two weights is the quantity of vegetable matter lost by combustion, and if the process be carefully conducted, the result will not vary much from the truth.

4. Method of placing a Transit Telescope on the Meridian of a any place.

Let the Transit Instrument be placed on the meridian, as nearly as can be guessed at, by the pole star; then observe the transits of two stars, one to the north and the other to the south, whose difference of R. Ascension is accurately known, (from tables or other use) does not exceed a quarter of an hour. Now if the difference of

the times of passing, as observed by a¹⁵
clock or watch regulated to mean time,
be the same with the difference of the
R. ascensions, the telescope is in the
meridian. But if the northern star
passes the meridian first, as will be the
case with beta Ursa Minoris and beta
Libra, and the interval of the observed
time be greater than the difference of
R. A. the telescope verges towards the
east of the north meridian, and thereby
prolongs the observed interval. If there-
fore, the next revolution of the north-
ern star, it be kept on the middle
wire of the telescope for half the num-
ber of seconds, by which the observed
interval exceeds the true difference
of R. A. the telescope following the star
for that time, and ^{then} be supposed to remain
in that position, it will now be exactly
on the meridian.

But if the observed interval be less
than the calculated ~~of~~ difference of
R. A. the telescope verges towards the
west of the true meridian; and there-
fore

the southern Star, in the next revolution, must be kept on the middle of the wire of the telescope for half the number of seconds, by which the calculated difference of Right Asc. exceeds the observed interval.

The telescope being thus adjusted a distant mark should be fixed, so as to regain the meridian, after it has been removed.

When the nights are more than 12 hours, the following method may be used.

Choose some circumpolar Star and observe its passage both above & below the pole, across the middle wire of the telescope, placed nearly in the meridian, noting the times by the clock; and if the interval of time between the passage of the Star above and below the pole be equal to half a revolution of the Stars (or half a sidereal day) as measured by the clock, the telescope is precisely in the meridian. But if the Star below the pole come later to the telescope than half a revolution of the Stars, after

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it has passed above the pole, the telescope verges to the east of the north meridian: And if the contrary, it verges to towards the west.

The error of the telescope is determined by the following

Rule. To the proportional or logarithical Logarithm of $\frac{1}{2}$ difference between $\frac{1}{2}$ revolution of the Star and the interval of the two observations, add the Log. Co. Sine of the Lat. of the place, and the Log. secant of the Star's alt.; and the sum, rejecting 30 from the index, will be the proportional Log. of the time between the observations of the Star above or below the pole, and the true time of its passage over the meridian.

Ex. Suppose beta Ursa minoris is the Star.

Solar distance 14-35-30

Alt. above the pole 54-33

Alt. on the meridian below the pole 25-22

~~Distance~~ Lat 39-57-30 North.

Passage of the Star ~~above~~ the pole 9-0-0 PM

Do below the pole 9-3-16 AM

Clocks loss in solar time per day - 4"

As the clock loses $4''$ per Day, instead of 12
 hours, it counts for revolution $11^h 59^m 58^s$
 and time of Stars passage above pol. $9^h 0^m 0^s$
 $20^h 59^m 58^s$
 Diff - 12

Passage under the pole Alt. = $8^h 59^m 58^s$,
 had the telescope been right. But it
 was observed to pass at $9^h 3^m 16''$, the
 Telescope therefore verges to the eastward
 of meridian because the star passed
 $3^m 18''$ later than for a revolution.

So proportionate Log. of $\frac{3^m 18''}{2} = 1^m 39'' = 2.0378$
 and Co. S. pol. dist. — $14^h 35^m 30'' = 9.9858$
 Co S. Lat. of place — $39^h 57^m 30'' = 9.8846$
 Sec. alt. of Star above P. $54^h 33'' = 10.2364$
 Sum — 30 in index — 2.1448
 $= 1^m 19^s 44'' =$ error of Tel. above pole.

For error of DO below the pole.

Prop. Log $1^m 39''$ — 2.0378
 Co S. pol. distance $14^h 35^m 30''$ — 9.9858
 Co. S. Lat $39^h 57^m 30''$ — 9.8846
 Sec. Stars alt. $25^h 22''$ — 10.0440
 error below the pole = $2^m 0^s 6'' = 1.9522 =$

If the Star, therefore at its next revo-
 lution above the pole, be followed
 by

the Telescope for 1-17, 4 of time, ¹⁹ & the Star
be kept on the wire during that time.
The Tel. will then be on the meridian.
If the Tel. had veered too much to the
westward, the Star must be followed
in its passage under the pole, during
the time of the error of position under
the pole.

The methods above, are the rules
stance of those laid down by Dr. Ew-
ing, in his System of Natural & Experi-
mental Philosophy. The former I think
preferable because it depends less on
the correct going of the clock.

Perhaps the method of determining a
meridian by taking the greatest elonga-
tion of a circumpolar Star, on both
sides of the pole, and bisecting the an-
gle, is as accurate; especially when a
large and well graduated instrument,
capable of being read off to seconds by
repetition, is used. It is inconvenient
either both, as they require the night
to be at least 12 hours long, when the
weather is generally cold and un-
comfortable.

5. Electro-Magnetism.

This new Science of magnetism has recently received the attention of Philosophers, and affords a series of amusing and interesting experiments. An account of the whole subject may be found under the article Thermo-Electricity, in the Edinburgh Encyclopedia.

Under the article Science in the same work, Vol. 16, are given some curious facts in relation to the effects of Iron Balls and hollow shells of the same metal on magnets.

Mr. Barlow has found by experiments that the attracting power of iron balls for the magnet resides wholly on their surfaces, and is independent of their mass, provided the thickness ~~is not less than~~ ^{is not less than} the 20th part of an inch. Hence it followed that hollow balls or shells, whose thickness exceeded the 20th part of an inch, had the same power as a ball of solid iron of the same size. This gentleman has

mounted

invented a method of correcting the ²¹
magnetic needle, on board of Ships, when
drawn out of the magnetic meridian by
the iron of the ships. A sheet of iron is
placed about the compass of such dimen-
sions, and at such a distance, as ~~should~~ ^{would}
be found by experiment to bring the needle
back to the magnetic meridian.

For a particular account of Mr. Barlow's
Correcting plate, see art. Variation of the
needle, Edin. Encyc. Also Bouclitch's Navi-
gation, page 119 - Sixth Edition. An Essay
on the same subject may be seen in Vol.
4.th Bramble's Journal of Science, page 102,
by William Beech.

The singular effects of rotation ^{of bodies} on mag-
nets and other bodies, is given in the same
Encyc. under the art Science, page 623. also
covered by the Christie. An iron plate
made to revolve round an axis passing
through the centre, acquires during its rap-
id motion, and possesses a power of pro-
ducing a deviation in the magnetic
needle. The subject has been taken up
by Mr. Barlow: and he found that
the rotation of a 13 inch shell in differ-
ent directions, produced opposite devia-
tion

deviations of the needle. The subject is
 curious and demands the attention of the
 philosopher.

In my practice of magnetic Surveying
 a similar effect has been observed, when
 a four wheeled wagon was passing my
 instrument, though at a considerable
 distance; but I have found in some
cases no effect from the carriage. Is
 this any way connected with the dis-
 -covery of St. Christie?

The attraction of the Needle by the iron
 in a Ship, and particularly one armed
 one, as well as one loaded with a
 cargo of iron, I have long supposed
 must materially effect the Compass
 by which the Ship is steered; but it is
 only of late that I have seen any
 notice of this disturbing cause. Errors
 in dead reckoning, have generally been
 attributed to a current in the ocean; but
 it is probable that these errors are
 more frequently the effect of the
~~attraction of the iron in the ships~~
 on the needle, than of the currents
 which are met with in long voyages.

6. Of the Improvements in Navigation. ²³

Prior to the ^{first} use of Hadley's reflecting Octant and Sextant in 1731, and the method of determining Longitude at Sea by the Lunar method, the conduct of a Ship's way on the wide ocean, was very imperfect, and a voyage round the Globe was considered a most adventurous undertaking. And truly it was so; for these voyages were attended with many disasters. The errors of the magnetic needle, from the attraction of the iron of the ship, no doubt were ~~the~~ ^{one} of the cause of some of the disasters which are detailed by voyagers.

The extraordinary error in the dead reckoning of Commodore Anson's Ship, the Centurion, in its run from the Straights of Le Maire to Cape Horn in 1741, must in some measure be attributed to this error of the needle, and not solely to the western current round Cape Horn, as was supposed. By the dead reckoning the Centurion was supposed to have gained a westing of 10 degrees

of Longitude from Cape Noir, when in fact the ship was nearly in the meridian of that point; of course it must have been more than 330 geographic miles west of this point, if the reckoning was true; and it is hardly to be supposed that the current could have set the ship that distance back, during the time of the run.

At the time of Coors voyage, I believe, the usual mode of ascertaining Longitude was not practised, nor the method by chronometers, and therefore there was no exact means of connecting the dead reckoning; and it appears that when the Centurion reached the Lat. of Juan Fernandez, so doubtful was her Long. that she steered for the coast of America to compare it with a known cape, which was the cause of the loss of a large number of the crew, by the scurvy, which then prevailed most severely on board. A good barometer would have saved these lives, and much loss of time, and brought the ship to its

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distance part in that Island, at
an earlier period.

The occurrence of ^{ships} ~~ships~~ ^{ships} may, as now
permitted, will appear from the fol-
lowing, ^{taken} from Brewster's Geography of the
Heavens.

"Capt. Basil Hall of the Royal Navy,
relates that he sailed from San Blas ~~on the~~
on the west coast of Mexico, and after a
voyage of 8000 miles, occupying 89 days,
arrived off Rio-Janeiro, having in this
interval passed through the Pacific
ocean, rounded Cape Horn, and crossed the
South Atlantic without making any land
or seeing a single sail on the voyage.
Arriving within a few days sail of Rio,
he took a set of lunar observations,
to ascertain his true position, and the
bearing of the harbour, and shaped his
course accordingly. "I rose to" says he,
at 4 in the morning, till the day should
break, and then came up; for although
it was hazy, we could see before us
a couple of miles or so. About 8
o'clock it became so foggy that I
did not like to stand in further, and

be relied on with equal certainty. But
Lunars should be taken in fair weather,
to verify them.

Another improvement is the rectifying the
courses of ships, so as to avoid the survey,
the bane of early navigators. Ships
now circumnavigate the earth with
scarcely the loss of a man, from this mela-
choly. And to these improvements, the in-
troduction of Steam Navigation, and it
must be acknowledged that we have at-
tained to an elevated degree of per-
fection, as relates to this branch of know-
ledge.

Dead Reckoning will still be important
in navigation, especially in cloudy weather,
but it will not be relied on when the
ships place can be determined by celestial
observations. The invention of the Circle of
Reflection by Mayer, and its improvements
by Borda, Troughton and Pios, have rendered
observations for lunars, more accurate
than ^{by} the Octant and Sextant, and thereby
enabled Navigators to determine their
Longitude with still greater ^{precision} accuracy.
Let us not forget the benefits resulting from
the efforts of our mathematicians and Philosophers.

the beginning to the end of the affair,
 they [the Americans] acted in no instance

like prudent or sagacious men. In the
 first place, they ought on no account to
 have risked a general action in an open
 country. ~~however~~ strong and steep; and
 secondly they deserve to suffer much
 more than they did, for permitting an
 enemy's army to penetrate beyond Nottingham.
ham. He finds no fault ~~with~~ ^{with} us, for
 permitting the British army to land,
 but says after it had landed, instead of
 concentrating our forces in one place we
 ought to have harried the enemy with
 continual skirmishes; fallen trees on each
 side and thrown over the road,
 dug deep trenches at certain intervals;
 in short to have adopted the mode
 of warfare to which ~~the~~ ^{their} habits, as well
 as the nature of the country invite.

The following remarks are judicious.
 'In Lunenburg, every man is a shot from
 his very boyhood, and every man
 serves in the militia; but to bring an
 army of raw militia-men, however
 excellent they might be as shots, into

a fair field against regular troops, could end in nothing but defeat. When two lines oppose each other, very little depends upon the accuracy with which individuals take aim. It is then that the habit of acting in concert, the confidence which each man feels in his companions, and the respectability and good order in which different movements can be executed, are alone of real service. But put these militiamen into thick woods, and send your regular troops to drive them out, you will immediately lose all the advantages of discipline, and reduce your battle to so many single combats."

"Hence the Americans, he continues, permitted us to advance as far as Nottingham. When broken up the roads, and covered them with trees, it would have been impossible for us to go a step beyond. As soon as this was effected, they might have skirmished with us in front, and kept our attention alive, with part of their troops, while the rest, acquainted as they

doublets were with every inch of the country, had got into our rear, and, by a similar mode of proceeding, cut off our retreat. Thus we should have been taken in a snare, from which we could not extricate ourselves, and should have been obliged, in all probability, to surrender at discretion."

The next error of the Americans, and which the writer calls a "monstrous" one, was, "not occupying the town of Blackensburg with part of their forces. The brick houses of the place, the writer thinks, would have presented formidable obstructions to the march of the British army, had they been well manned; and he finds fault with the disposition of our troops on the height beyond the town, there being no place in their line affording a single point where an enemy would be exposed to a cross fire. The American, he says, "were drawn up in three straight lines, like so many regiments upon a grand parade; while the guns were used as connecting links to a chain, being posted in the same order, by ones and twos, at

every interval". In maintaining their position he thinks, the Americans "inhibited neither spirit nor resolution; and that no troops could behave worse than they did".

Inconvenient as I am with the exact topography of the field of battle, it is impossible for me to judge nicely of the disposition of the American troops. There might have been errors in the formation. But judging from the numbers of the British killed, and the repulse of their light brigade, on the first attack, ~~and~~ ^{even} not ready to admit with the writer, "that no troops could behave worse". ~~Our~~ militia broke and gave way before inferior numbers, it is true, but in this they acted as all undisciplined men will, when opposed by regular troops in open ground. where the opposing ~~troops~~ ^{forces} are nearly equal in numbers. The great error was, as the writer has asserted, in risking a general battle in open ground.

An American, who has supplied an appendix to the British Narrative ~~attempts~~ ^{attempts} to show that the force of the

British, instead of 4500 as stated by the British officer, was 9000, about the same as given of the Americans. But be this as it may, it is certain that but a part of the British army was engaged in the action; and though the Americans were beaten it does not follow that they lack the spirit of soldiers. But only the discipline necessary to make them so. The following is the remark of the British officer on this point.

"Of the personal courage of the Americans, there can be no doubt; they are, individually taken, as brave a nation as any in the world. But they are not soldiers; they have not the experience nor the habits of soldiers. It was the height of folly, therefore, to bring them into a situation where nothing except that experience and those habits will avail; and it is on this account that I repeat what I have already said, that the capture of Warhington was more owing to the faults of the Americans themselves, than to any other cause."

In the defence of Beethamone the Norians gave more skill to the Americans; they had thrown up strong lines; had increased their artillery and numbers, while the British force had diminished. But without the successful defence of fort Mifflin, it is doubtful whether the British expedition would have failed of success.

From both of those expeditions we ought to learn a useful lesson. Our militia then, as now, were not competent to the defence of the country against disciplined regular troops; and should another war occur while we rely on such a force equal disasters will happen. The fault is not in the people but in the agents they intrust with their affairs. A small portion of our present militia, properly organized and disciplined a few weeks annually in the field, subsisted and paid by government while so employed, would give a result very different in any future invasion; and until a plan of

† The Americans, says the Narrative, rushed a battle with
 part of their army, when there was no necessity for it;
 in a word, they committed all those errors which
 were generally committed who are not soldiers yet
 have no end.

this kind is adopted for the United States, by Congress, we may think ourselves fortunate if we escape the horrors committed to a war with a powerful nation. Our present notions in regard to a national defense are absurd in the extreme, & all those who rest secure under the present militia system, whether they know it or not, must be enemies to the welfare of the Country. We hope our leading men will open their eyes in season, to ward off the danger.

The British officer fully accords to the Americans personal courage, even if this were doubted, we should need no stronger proof of its reality than the excellent qualities of the Army, after time was given to discipline it, in the course of the revolution. The brave conduct of our Navy in the late war is another proof in point. The truth is, with the same discipline as that of the British Army, our troops would be equal to them in every particular. If our reputation as a military nation is now sinking, it is owing to the false notion that every man can be made a soldier by ~~two~~ two

two or three days training annually, under officers as little acquainted with the art of war as themselves; and this with no other pay than the ~~thanks of the~~^{after service} receiving officer, who in many instances, is ignorant of the first lesson of discipline.

8.

The Mirage.

An instance of this phenomenon is noticed in a late Saturday Gazette, as seen by a number of persons at the New-Come House near Phillips Beach. The south shore of Nahant was seen upon the coast for leagues, appearing to rise to a great height, as if forming an immense perpendicular sand cliff. The phenomenon was very curious representing most of forms, mentioned by writers on this ~~extraordinary~~ appearance. In Brewster's Letter on Natural Magic, may be found a good description of the mirage under various names, as well as in many other philosophical works, and the whole are explained by the principle of Atmospheric refraction.

9. Height of Deerfield Est. Mountains,
by a trigonometrical observation.

A base was taken in the South front
of Deerfield Street, and the height of the
mons. determined at each extremity.

As the base was level the results were
very nearly the same at each end.

(411.19) Now ~~740, 49~~ feet. The top of a tree ~~on~~
the summit of the Mon. was used in
the vertical circle, and of course its
height should be deducted from the
above altitude.

The height of the same tree, deduced
from a level base in the low grass mea-
dow South of the street, was found to
be 745.8 feet above the base.

By carrying a level from the meadow
base to that in the street, the latter was
found to be 21.84 feet above the former;
hence it follows that in one of the obser-
vation there was a ^{small} error; but that
in the street was considered the best
result.

Mr Charles O. Bortelle, a student in
our Academy, was with me in the
operations (an intelligent young man)
who took the angles &c

Specimens of the Plants and Fruits
of the Island of Cuba.

By A. F. Wollstonecroft - a Lady of
 Massachusetts, who died in that Island
 a few years since.

This Lady, I am informed, ^{was} the daughter
 of Kingsbury of Newton, and
 married to an English gentleman, Mr
 Wollstonecraft, a brother of the famous
 lady of that name, well known in the
 literary world. Of her Biography this is
 all that I have learned; but from
 this "Specimen" it would appear that
 she must have possessed genius for
~~botany~~ ^{botany} superior to most of her sex
 in this country.

The work was kindly lent me by
 Miss Kingsbury, a sister of the writer,
 who was on a visit to this town, &
 whom I am informed, possesses the
~~same~~ ^{same} genius of her sister.

The work is in manuscript, consisting
 of two Vols. The plates are good engrav-
 ings, on a large size, drawn with
 her own hand, in rather ex-
 pensive colors. In the description,
 the plants are named and classed

according to the methods of Botanical
writing, and rendered interesting from
~~by~~ his ingenious remarks and anecdotes
of its merits as a Botanical work.
I am not capable of correctly judging;
for my acquaintance with the Science of
Botany is but slight;—merely what I
have obtained by cursorily looking
over treatises on the subject, without
making it a favorite study.

In the description of the Choiscentia
Pea. (Aschynomene grandiflora)
the writer says "It may be that I have
mistaken the genus, and species to which
~~the~~ Botanists have assigned it; (the tree
which bears the flowers) for without either
books to inform, or scientific friends to
consult, it would be astonishing if I
did not make many mistakes in the
nomenclature, and in the artificial ar-
rangements of plants, which have been pre-
sented to me, and their characters unfol-
ded by nature only, without the slight-
est aid from scientific persons. The on-
ly assistance I have had, either in col-
lecting the plants which compose these
volumes—in delineating—or in describing

them, has come from Slaves, who, knowing that I love flowers, hoped a real for every one they brought me. During my life, I have ~~not~~ yet never had so much as a single con-
versation with a Botanist; much less a lesson from one. I describe the plants as I have found, or thought I found them. No evil from others has visited me. It must be therefore that my descriptions shall prove faulty. Yet I can affirm it is unavoidable, not willfully, that shall excuse these pages."

If the writer is inaccurate in every particular, I think the above ought to be a full atonement.

In the description of Epilobium, which she names the Quaker flower, from its modest simple beauty. She says, "I have been induced to call it by this name as it appears in happy emblem of the unassuming, humble yet interesting, virtues of that amiable sect of Christians. I have had much less intercourse with this class of my countrymen, than I could have chosen; but fortune has often

often brought me in contact with them in travelling; and I can truly say that whether our acquaintance were longer or shorter, I never got parted with one of them without sincere regret. Sincerely those of my own sex. I have invariably received from them that sweet, attentive, soothing kindness, which cannot fail to impress any heart, but one of stone or lead, with sentiments of tenderness, esteem and almost affection, though our acquaintance were only a few days." -

This I think a handsome eulogy; and from what I have seen of the mind in France, among the Quakers, I should deem an appropriate one.

A printed edition of Mrs. W.'s work would be expensive, from the cost of the plates, and might not meet with a ready sale; but our Botanists, no doubt, would be gratified to see it come before the public in this form.

The study of Botany I think is an appropriate employment for intelligent females, and it is to be regretted that more of them do not fill up their leisure hours in pursuing it. It is not a difficult science.

11. Of Botany.

In the last ^{article} recommending the study of Botany for females, we have said it is not a difficult science. We mean to be understood as saying, it does not require that abstract reasoning which is necessary in mathematics & some other branches of science.

True it is, ~~botany~~ is loaded with a technology rather tedious, and to ~~us~~ it seems unpropitiously so; but while the mind is bright and the memory good, this may be overcome. Since it appears that the study ought to be commenced while the pupil is young, or rather, before he becomes old and the memory treacherous. The terms once rivited in the mind, though not wholly understood, will enable the pupil to proceed with considerable success. But it appears to us that a system might be contrived better adapted to the understanding of the English scholar. Under its present form it is rather repulsive to such pupils. The consequence is, that many, or

most of these, neglect the study, since the knowledge of it is locked up with a few. Were it otherwise, many intelligent young people, whose experiments lead them often to visit plants in the field, would be able to give their aid in discoveries important in the science.

But it will be said that the science of Botany is intended to be general, extending to all literary Countries, and that if each had its system in its own language, they would be too numerous, since that an Englishman could not understand a French system, nor a Frenchman an English one; since that the present system is in some measure understood by both. But admitting this to be true, would not Botany, in fact, be more extended, say in the United States, by an English system, than it can be under the present?

Although the technical terms now used are the same in ^{all} learned Countries, it will not, I believe, be pretended that an Englishman could understand a

a French work on the science, without an acquaintance with that language; Hence the science in different nations, will, in some measure, remain distinct until all the languages of ~~different~~ nations shall be reduced to one and the same, which is not likely to take place. Much might be said on this subject.

In the present language of Botany, however excellent it may be deemed, there appears to us, to be some singular limites, or anomalies.

Thus, ^{it is said} the calyx, or outer part of of a flower, is generally "not colored," though in fact it is green; as the calyx of the apple because it is green; but that of the masturbation is colored because it is not green. a strange See Ca. use of terms. Why not say a calyx is green when it is really so, and others Botany are of such and such colors, as they perceive of? -

Define Poisons, ^{generally} are defined to be "any substance which in a particular manner deranges the vital functions

and terminate mortally, if not counter-acted". The following is the language of Botany. "Plants with 5 stamens and one pistil; with a dull-coloured lurid corolla, and a nauseous sickly smell, are always poisonous - as toxicos - Thorn apple - huckleberry - nightshade. The degree of poison is diminished where the flower is brighter coloured and the smell is less nauseous - as potatoes is less poisonous, though of the same genus with nightshade". Umbelliferous plants of the Eaton's Botany exotic kind, and of a nauseous scent, are always poisonous - as water hemp lock - cow parsley. But if the smell be pleasant, and they grow in dry land, they are not poisonous - as fennel - dill - coriander - sweet cicely.

Plants from which issues a milky juice on being broken, are poisonous, unless they bear compound flowers - as milkwort - dogbane - milne's contacta and Lactescens".

Many plants possess some degree of the narcotic principle, which are still by no means harmful."

To say that plants are always poisonous

ous, even that in extreme situations & a little variation of character, they are not poisonous, express rather absurd. A plant is poisonous when it produces a poisonous effect; but to say it is poisonous, even at the same time harmless, is equally absurd.

The potatoe is ranked among the poisons, perhaps, for no other reason than it is of the same genus with nightshade, a poisonous plant. Botanists may thus play with language; but the people of ~~every~~ all countries, who constantly feed on this wholesome root will not believe that they are taking poison into their stomachs at their refreshments, though Botanists may assert it. When a plant actually produces a poisonous effect on animals, let it be called a poison, but if nourishing and harmless, let it have a different name.

In conclusion, we say, when botany can be made a popular study, it will be more useful; but while it remains under the lack of the linguist, it will be limited.

Military Etiquette and Dress.

In a Boston Paper of the 23^d of Sept^r we have the following: "Many inquiries ^{have been made} as to the military etiquette of a commander in chief reviewing the troops in a citizen's dress. Governor Everett made his appearance on the Common last Wednesday, in a suit of black".

In other words, His Excellency reviewed the Brigade of Light troops, on Boston Common, with ^{putting} the appropriate tinselled coat.

We are ready to admit that the citizens of Boston, in general, are more of discernment, and in some particular instances, acute and eagle eyes; but as respects their notions of soldiers and military affairs, we have found them ^{generally} as crude as the young boys who so eagerly follow the crass legends that promenade their streets at the head of their tinselled companies of counting ^{house} clerks, under the name of soldiers.

In the city great stress is laid upon a military dress; no one can become a soldier without appearing

with ~~the~~ plumed cap. This well cost
and all the glory of the ~~troops~~
a clasp fitted only to please Laetius
in a ballroom. This is the prevailing
notion of those who are not soldiers
yet love the glittering show of war:
Under what circumstance may be
placed on such show, is left to the
decision of officers of science & experience
as a specimen ^{of the services} of such troops in the
field, are given an anecdote of a corps
at the battle of Waterloo as related
by James Simpson in his Visit to France.
and once the ~~the~~ ^{little} field. ~~at Waterloo~~

"A very gay regiment of Gentlemen
light-horse volunteers, were in the
battle, all inhabitants of a Continental
city which I shall not name. An op-
portunity occurred for them to
charge the French Cavalry, and an
order or request, to that effect, from
Lord Wellington. This Colonel in
great suspense, objected the enemy's
strength, - their evasions, - and the
circumstances, which had undoubt-

ly, he said, escaped the Command
 in Chief, that his regiment were all
gentlemen. This evasive response
 was conveyed back to Lord Wellington;
 who dispatched the messenger again to
 say, that if the gentlemen would take
 post upon an eminence, which he pointed
 out in the rear, they would have
an excellent view of the battle; and
 he would leave the choice of a prop-
 er time to charge, entirely to their own
 sagacity and discretion, in which he
 had the fullest confidence! The Colo-
 nel actually thanked the civil-dis-
 cuss for this distinguished post of
 honor, and followed by his gallant
 train with their very high plumes,
 was out of danger in a moment."

The "sagacity and discretion" of these
gentlemen soldiers, it is presumed, kept
 them safely posted during the remainder
 of the battle. We dismiss the anecdote
 without comment.

The importance of a uniform dress
 for militia has been very much
 overlooked, and it is time that we should
 get

nor could resist the shock of an
 equal number of disciplined regulars
 for a moment, though in tutored &
 multifarious habiliments. For further
 remarks on this subject, see Chap. 8th
 of my Practical Instructions for Militia
Officers.

The unapprising abrupt of Gov. Everett
 at the review on Boston Common,
 meets my aspiration; and I hope
 it may serve as a useful lesson to our
city corps of militia, as regards their
 extravagance in useless and empty
 gorgeous, so much the ton of the day.

From his former ^{studious} habits in civil life, it
 cannot be supposed that Gov. Everett has
 acquired deep knowledge of the Art of
 War. And he has applied himself
 to this art, as closely as he has to many
 other branches in the circle of science, and
 joined inactive to his study, he will bot-
 tom understand his new profession; &
 we doubt not, become convinced, that
 men bred up to the tender scenes of do-
 mestic life, cannot be relied on in the field,
 unless they are, in some degree, habituated to hardships of

the tented field came taught implicit and mechanical obedience to military orders. In the neglect of these important points lies the error of our Boston friends whom we are ready to admit possess the spirit, but not the habits of soldiers..

13. Convention at Worcester Mass.

At a Convention of what is called the Whig party at Worcester on the 14th of September 1836, a number of Resolutions were passed expressive of the sense of the Convention in regard to the administration of General Jackson.

The Resolutions involved heavy charges against his policy, and in some particulars I think them well founded. But without any predilections for General Jackson or his system, I am not certain that he deserves all the censure of the resolutions. At the time of his elevation to the Presidency, I was opposed to him on the ground of his incapacity for the office. His popularity I suppose was founded on his success in conducting the

military forces ~~at~~ New Orleans, and
 against the Indians; and although these
 evinced that he was a brave man, I
 could not draw thence proof that he
 was fitted for a civil office, like that
 of the Presidency. His talents, however,
 I think are of a more elevated order
 than I had supposed; and his conduct,
 as respects the insane millions of South
 Carolina, appears to me to have been
 highly commendable. In some other
 of his plans, I think he ^{will} discover the con-
 sume of the resolutions.

The 2^d Resolution condemns the policy
 of the President in relation to the unjust and
 cruel conduct towards the remnant of the
 Indian tribes, in which I concur.

In the 3^d the removal of the deposits
 is condemned as an arbitrary measure,
 calculated to introduce a vast system of
 corruption, which may undermine our
 Republican system. On this point it
 has been said the measure was un-
 constitutional; but of this I am not
 without some doubts. If it were
 clearly so, how happens it that ~~some~~

large a majority of the people have
 submitted to it? As for myself I have
 not viewed it so fraught with
 destruction as has been represented;
 but have considered it as impru-
 dent; and aside from the hostility it
 evinced against the United States
 Banks, which appears to me important
 for our welfare, I considered the remov-
 al of the deposits as of no great conse-
 -quence, in view of the money could
 be safely ~~deposited~~ kept.

4th

In the Revolution the act for
 the distribution of the surplus revenue
 is noticed, with expostulation, as the
 only remedy for this "corrupt and
 abominable system". As respects this dis-
 tribution of the public money I have
 some doubts of its utility. Are there
 not other objects of a public nature
 which call for its expenditure? Many
 might be mentioned; among these the
 defence of the nation is the most im-
 -portant, and the Treasury of the U.S.
 should always be ready to furnish
 the sums that may be wanted on
 any emergency. The pay of a select mi-

taken by Congress, should not be forgotten, nor the increase of our navy. But if the present revenue is not wanted for these and other objects of a public nature, let the tariff be lowered, or limited to the wants of Government.

The 5th Resolution notices the late difficulty with the French Government, and expresses obligations to the Whig members of Congress for having saved the Country and its commerce from being plunged wantonly ~~and~~ unwisely unarmed, into the inevitable losses of a war with France, when all was in jeopardy from the hot blooded rashness of the Administration and its advisers."

War is to be deprecated, and avoided if possible; but they who rely on peace without the means of defence, rest on a broken staff. If we are unarmed and unprepared, whose rests the fault? Undoubtedly on the Congress; since in this respect the Whigs are as ^{unwise} ~~simple~~ ^{guilty} as the friends of the Administration. Among the various projects brought

before Congress, we see little in re-
 gard to a proper and efficient organ-
ization of the militia. Some all parties
 rest in perfect security, though in a
 war with England or France we should
 immediately see a ^{recurrence} ~~renewance~~ of the
 disgraceful operations at Bladenburg
 and Washington; and all our sea
 coast cities, would be at their mercy.
 This neglect of the government is not
 to be charged ^{solely} to the President; for at
 the commencement of the last session
 of Congress, he forcibly urged ~~the~~ atten-
 tion to the subject of the militia, and
 suggested an appropriation of some
 of the surplus revenue to their dis-
 -cipline; and what could have been
 more proper and useful? But this suggestion
 was lost in the struggle of the parties in
 Congress, and we are still left without
 a land force competent to our defense.

In the dispute with France the
 President is charged with rashness,
 and I think he went further than
 the occasion demanded. Situated
 as we were, without a sufficient
 land

lance force, prudence required that
we should not be hasty in diminishing
satisfaction from so powerful a na-
tion as France. whom we were justly
sure we could not impose it. Once
so long as Congress ^{might go} take the proper mea-
sures for arming and disciplining a
fraction of the militia, and fitting them
for the field, we shall be under the
necessity of cringing to foreign impositions.

But in this affair with France, it is
doubtful whether a less decisive tone
than ^{was} used by the President, would have
brought her to comply with the terms
of a treaty she had so outrageously in-
fringed. Instead of wrangling about
the language of the President, had Con-
gress taken immediate steps to place
us in a defensive posture, and permitted
us to rest on our arms, until the French
government had complied with the
terms of the treaty, ^{we} should not have
sunk ^{our} military reputation so low
as now. We rejoice that the dispute
was finally settled as it was; but we
could

cannot avoid remarking, that the steps taken by us, to effect that object, were rather disgracing to a nation so powerful as we might be, under a proper system of military defence.

The war now raging in Texas is not tied in 1st resolution, and the conduct of our Government in regard to it, condemned. Hence we are in accordance with the resolution.

In the 7th 8th & 9th Resolutions, which express fear from executive encroachment on the constitution, we are not so alarmed as ^{we} the Convention. If the President is making strides & overleaping his power as conferred by the constitution, why not impeach him and bring him to the test of a trial? If it be said this cannot be done because of his numerous ~~and~~ supporters in Congress, then it would appear that his ~~pretended~~ stricts are at least doubtful; for it is not to be believed that a majority of the members in both houses, chosen by the people of all parts of the

the States, would support him against
their interests - and their own.

Mr Van Buren's casting vote on the
Bill for placing us under a gag law
is noted in the 10th Resolution. And
on this we acknowledge he has dis-
played all principles, ~~and~~ hostile
to the spirit of our republican govern-
ment; and without statement for
this misstep we should be cautious in
selecting him for a high office in our
government.

In the nomination of Mr Webster, in
the 11th Resolution, we should concur,
provided it were possible to elect
him; and we regret that he is not
more generally supported in other
States of the Union.

Let it not be supposed from the
foregoing that we are friendly to the
~~administration~~ ^{administration} of Genl. Jack-
son. That he has erred in many points
is obvious, and in none, we think,

more than in his hostility to the Bank
of the United States, thus in our

view, is essentially necessary for transacting business in various parts of the United States; and if abolished, we think not many years will elapse before Congress will be compelled to resort to a similar institution; for the people will demand it of them.

The fears that are entertained from ~~excessive~~ power in the President, appears to us to be groundless. So long as the union consists of 24 sovereign states, ~~so~~ widely spread over an extensive country, there can be little danger from this source. However popular a President may be at the commencement of his administration, if he sanctions measures detrimental to the states, or to a large portion of them, he will lose his popularity; and instead of complying with the laws of Congress which operate against ~~the~~ ^{state} interests, the consequence will be to bring about a dissolution of the Union. And here, it appears to us, ^{his} our greatest danger. If a corrupt President had at his beck a large standing army the case might be different. The

61
The party, styling themselves Whigs,
since fraught with antimasons, who are
unfriendly to Genl Jackson's administration,
for neglecting to suppress their measures.
They should remember, ~~that~~ masonry
was first applied for its murder of the
year and other atrocious acts, and when
masons were pouring out their vengeance
upon all who dared to question the
purity of their institution, Whigs stood
aloof, or, in many instances, joined in
the massive vituperations against anti-
masons; and in some instances they
were as abusive as masons themselves.

This has created, on the part of anti-
masons, suspicions of the rectitude of
such Whigs; and they may look to
themselves for this breach of confidence.

This perhaps will be called inbred
prejudice which ought now to be erad-
icated. ~~Let~~ Those who have felt the ma-
- ^{light} ^{ent} ^{con} ^{spire} if these marked friends of masonry,
~~and~~ who offer no excuse for their sin-
- ^{guine} ^{con} ^{duct} ^{with} ^{judgment} of the motives
of these pretended patriots. Such inot
anacy is not to be winked at of sight.

14 The American Almanac or
Repository of Useful Knowledge for 1836

This work is published annually
 in Boston, and the present is the 7th N^o.

It is divided into two parts, the
 first containing the Calendar, the other
 the Miscellaneous Department, em-
 bracing the Statistics of the U States and
Europe. The astronomical calculations
 by Mr. Peirce of Boston.

Since our Federal, as well as the
 State Governments, neglect to establish ~~any~~
astronomical Observatories for the benefit
 of astronomical Science, we are gratified
 to find that individuals, who see the
 importance of this knowledge, and
 are desirous of warding off the dis-
 grace which is attached to such
 neglect, are willing to exert their
 talents in reclaiming the country
 from such imputation.

The work before us contains 324
 pages, includes 12 of preliminary obser-
 vations, preface and table of contents,
 and is somewhat on the plain
 of

of the *English Nautical Almanac* 63
-*nae*. Each month contains two pages
and with an Ephemeris, table of the ap-
parent places of 30 principal Stars accord-
ing to Bessel, and others embracing refraction
from and parallax, give room for much
important matter. The work also con-
tains a table of the Eclipses of Jupiter's
satellites, occultations, & the Latitudes
and Longitudes of places within the U.S.

The calendar is important for the
astronomical student and the Statist
will receive much aid from ^{the} first
relating to his employments.

Though the work in its present form
must be attended with considerable ex-
pense, we hope the patronage of the
public will enable the publisher to
enlarge the future numbers with ~~some~~
additional astronomical matter.

An extension of the preliminary obser-
vations, is wanted for young astron-
omers; and we would recommend
the following additions to the first
part. viz. In the table of R.A. of
the Stars, a few of the nearest ~~stars~~

64.

in Nova Major and Cassiopeia
 be included. A table of the Sun's
 Longitude and R. A. and of the
 Moon's Semidiameter and passage of
 the meridian. A few problems in
 practical astronomy, particularly such
 as relate to finding Latitude, and
 Longitude by Chronometers, merid-
 ians and the variation of the
 magnetic needle. A short no-
 tice of some of the best astronomi-
 cal instruments, with their prices,
 would be useful to students in
 astronomy, and ^{to} Surveyors. Our
 objection recommending these addi-
 tions to the Almanac, is to render it
 more useful to ^{those} who make observa-
 tions on land, like the Nauti-
 cal Almanac for seamen on the
 Ocean.

The Almanac in its present form
 is valuable, and its price, 75 cents, low;
 and all inquiring young men,
 and especially those who have a
 taste for astronomy, should place it
 among their books. One hint of
 M

65

Mr Peirce, in his preliminary observations, applies to our State and Federal governments. Noticing the efforts making in Europe for a more critical knowledge of the tides, he says: "It is a source of deep regret that these Savans will not probably find any co-laborers in this country. Possessed as we are of an immense sea coast, and the second commercial nation on earth, it would seem that an accurate knowledge of the causes of the tides would be unto us of the highest importance; but there is too much reason to fear that we shall do no more to advance this great work than we have done for astronomy in general, viz. to declare ourselves the most enlightened people ever in existence, to fold our arms, and continue to be indebted to the noble nation from which we descended for their Nautical Almanac, without which hardly an American ship would go to sea". For our previous remarks on this subject, see article 3, page 5th in Sketch Book No 2. Also page 148 of No 3.

15 The Weather.

In our last remarks under this head, September 7, we noticed a severe frost which we supposed must have done much damage to the crops of Indian and Broom Corn. The damage was not so great as we had anticipated, both crops however are injured, and we believe in some places nearly destroyed.

Most of the month, following the frost, proved warm, in some instances the thermometer up to 90, once though many of the leaves of the broom crop were killed, the tops of the corn in many instances shot up and headed out, once healthy leaves appeared above those that were dry. The crop may therefore afford a pretty good yield. Some of the late Indian Corn may be damaged, and the ears have been observed to be defective. At this time Sept. 30, the weather begins to exhibit the usual temperature of the fall, though no severe frosts have occurred since that of the 4th instant.

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expecting on the night of the 29th,
when a pretty severe one occurred,
which probably has complicated the ru-
in of the crop of Broom-Lawn seriously
injured, if not destroyed, & very much
damaged, the late crops of Indian-Lawn

Some of our workmen employed in cutting
grass in a low situation, on the morning of the 30th,
inform me that they found ice on the hub
of their sythes, in considerable quantity,
though none was perceived on objects
some height above the surface: a proof
of the correctness of the theory of Dr Wells,
as noticed in vol 1, of this No page 1.

From this and other facts which have
been observed, I think the theory of the Dr.
if not established, is rendered highly
probable; and if it can be shown that
the radiation of heat from low situa-
tions, is more copious than from those
which are higher, we may account for
the phenomena of our early frosts.

Could any means be devised to pre-
vent this radiation, we might save our
crops. To cover whole fields with a screen
would be too expensive, and no other oc-
curs to me. But in small gardens it may be used.

learn something of their duty, and be prepared to enter upon higher instruction when called into actual service; and though they might not be able to cope with standing troops in open ground, they would soon present a respectable front, in which a commander would feel some confidence.

To introduce a regular system of discipline and give the requisite instruction to the officers, Inspectors should be provided by the State, who should visit the annual camps. These Inspectors to be thorough disciplinarians and versed in all the principles and practices of war, as well as engineering. Such might be found among the graduates of the School at West-Point.

When Congress, or the State Legislature, shall adopt a plan of this kind, our militia will be placed on a respectable foundation, and competent men will be found to command them.

Then our defense would no longer excite the sneers of the regular tactician nor the contempt of men of disarming.

17 Steam Carriages:

Some experiments were made in
 England, in 1789, for driving Steam
 Carriages, but the object was not
 completed until 1811 on a rail way.
 In 1802 - Messrs Trevithick & Vivian
 invented their high pressure en-
 -gine, and in 1805 it was actual-
 ly applied to the experiment of
 moving carriages on a rail way
 at Merthyr Tydfil. But it was
 not till 1811 that the first Steam
 carriage was actually used for
 practical purposes. This was done
 by Mr. Blenkinsop who intro-
 -duced ^{Steam} Coal wagons on his rail
 way. Since that time improve-
 ments have been made, and they
 are now extensively used.

But it appears that Oliver Ev-
 -ers, an ingenious mechanic of
 Philadelphia, had turned his mind
 to this subject at an earlier date,
 and in 1804, he transported a
 large flat or scow, from the place

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when it was built, to the Schuylkill,
on wheels, with a steam engine. &
afterwards choicely that run to
the Delaware river, proceeded to the city
14 or 15 miles, in presence of numerous
spectators by the same power.

Mr Evans projected several plans of
working wagons on smooth roads, and
obtained patents from Pennsylvania
and Maryland for the purpose; but
being unable to construct his engines
without the assistance of gentlemen of
property, he failed of success.

In 1813 he predicted the future suc-
cess of steam transportation, both on land
and water, and lived to see his pre-
dictions verified in part. Had he been
encouraged and aided there is little
doubt that he would have given
the honor of the first steam boat to
the Delaware; ~~and~~ ^{most have} the proud
Swan of the Hudson, glided along its sur-
face with the unfledged wings of
the humble cygnet. The Delaware ^{has} ~~is~~
not without its need; for the first
Steam boat, though imperfect, was ~~first~~
launched on its broad surface.

18 Method of tracing a Line of Latitude.

When extensive tracts of Country, such as Kingdoms, States and Counties, are bounded on lines of latitude and it becomes necessary to fix their boundaries, great care is necessary in the process; nor is it easily performed without very nice instruments.

Two modes are commonly adopted, one by tracing a great circle on the earth, and setting off, on a meridian, the calculated distance between the circle and the parallel; the other by tracing a quadrant line with a good magnetic instrument, and then determining the latitude of its extremity, and connecting, north or south, into the latitude.

The latter would be accurate if the latitude could be determined with precision; but with all possible care this will remain a little doubtful; for one second of error in the observation for the latitude will produce upwards of 100 feet

fact of depression from the parallel, and with the best sector the zenith distances can rarely be determined with greater nicety. Hence then all lines of Latitude thus traced must be of a zig-zag form, though perhaps not greatly variant from the true curve.

The method by tracing a great circle and setting off into the Latitude, appears to me to be more accurate. In this operation there is no difficulty in following the curve which is always in the prime vertical, and if the distance run be measured horizontally, or nearly so, the requisite data for calculating the offset will be obtained.

The following problem in astronomy is well known for the solution. ~~The~~ The sun's place in the ecliptic, or his longitude, and greatest declination are given, to find his declination at a given time.

Way. Rad. :: Sin. Sun's Long. :: Sin. of the greatest declination (or obliquity of the ecliptic) : ^{Sin. of} the required declination.

Suppose A is required to trace the

parallel of 42° of Lat, to the westward.
 A meridian line is first drawn
 with minute exactness, and a ~~line~~
prime vertical traced westward by
 a transit, or other accurate instrument;
 perpendicular objects being erected
 at suitable distances on the line. Sup-
 pose the distance measured to be 20 miles.
 This line, as above, continued 90° west
 Long. from the place of departure will
 intersect the equator and form a spher-
 ic triangle whose L at the intersection
 of the equator will = the Lat. of the obser-
 vatory, or 42° . The distance of the ob-
 servatory from the intersection of the
 equator will be $90^\circ - 20' = 89^\circ 40'$ and
 the proportion is as follows.

Radius	10,000,000
: Sine $89^\circ 40'$ (or Log)	9,999,993
:: Sine of 42° (or Lat.)	9,825,511
: $8. 41^\circ 59' 57''$	<u>9,825,504</u>

Then $42^\circ - 41^\circ 59' 57'' = 3$ seconds, the
 distance south of the parallel =
 303 feet (nearly) This distance set off
 on a meridian (to the north) will meet

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the parallel at the termination of 20 geographical miles, which measure we have chosen for simplicity in the calculation.

The same great circle may be continued, or another traced from a 2^d observation, and a similar process followed. Other points may be found on the curves of the Latitude, by similar process; or if the Line be ^{very} corrected by similar triangles with a good compass; the errors will be small.

In the Logarithmic calculations it may be necessary to use tables, or 10 pieces of figures to detect the small differences. Taylor's tables will be found useful for the purpose.

The State of Pennsylvania is bounded north and South on parallel of latitude and on the west, by a line of longitude, 5° west, of the southeast corner on Delaware river. Most of the south line was traced by Messrs Mason and Dixon, by offsets from a great circle into the parallel of latitude; and the extent ^{west} was determined by observations on the eclipses of Jupiter's satellites.

The southwest angle being thus ascertained a transit line was carried North to Lake Erie, by Amos Elliott and others. The north line was carried ^{from the Delaware} west, on the parallel of 42° N. Lat. by determining points on the line from zenith distances of stars, taken with a ^{large} sector, and the lines between the observations run by the compass. From the well known astronomical skill ~~employed~~ of the gentlemen employed on the boundaries, among whom, besides Mr. Ellicott, were Dr. Elving, Mr. Rittenhouse, Mr. Lukens and Mr. Hutchins, it is presumed the limits of the State have been accurately determined.

The south line of the State is bounded by the Lat. $39^{\circ} 43' 18''$ N commonly called Mason's & Dixon's line. These gentlemen measured a degree of Lat in Pennsylvania, on a pretty level surface, and found it to be 363784 British standard feet.

Several of the southern States are bounded nearly on parallels of

Latitude, but whether their limits have been settled by astronomical observations, I am not informed.

Part of Massachusetts was originally bounded on parallels of latitude; but having been inaccurately traced in its early settlement, the bounds have been partially settled by the old improvements, without much regard to the latitudes. The geodesic Survey now making, will probably prove, that they vary considerably from the lines of the original charters. On the north it is probable the line is not very correct. Excepting the western line, which was run by a transit instrument, the surveys have been made with the common compass. On the south between the Connecticut and the N.E. angle of the State of Connecticut, the line has ^{been} recently run with considerable care, and the local attractions of the needle allowed for; but in some instances old improvements were regarded rather than the parallel of the original charter. The line is now designated by prominent boundaries.

19. The weather.

Since the frost of the 29 of September last, there have been several severe ones, and the weather continued cool. At this time, Oct. 10, the high grounds in the town of Hellsboro Whitchell Co. and others in that quarter, are covered with snow several inches in depth, and we are the aspect of winter. Our summer has been too cool for the crop of Indian corn, and it is not sparingly ripened, and undoubtedly there will be a scarcity of this article. Some crops of broom corn are nearly destroyed, especially on the low grounds.

Should these cold seasons continue we shall be compelled to change some of our crops, for those that require less heat to ripen. A variety of Indian corn is raised in our hill and northern towns, which ripen early and is well suited to the time as ours. Probably we shall have an early winter, and whether our climate is undergoing a permanent change, is to be seen. The

The indications of an early winter still continue. On the morning of the 12th of October
 our valley was ~~seen~~ covered with snow, attended with rain & a cold northerly wind, and all nature puts on a dreary aspect. Nearly has such weather occurred, in our Latitude, in the month of October.

If it be true that the northern hemisphere is becoming colder, as several European writers aver, it is a question whether there is reasonable hopes of an amendment. If the present deterioration is owing to an accumulation of polar ice, it would appear that our temperature must continue to decrease.

But may there not be counteracting causes to this increase of ice? Had it been accumulating from the commencement of the world, and it be admitted that this effect, our climate as is supposed, long before this time we should have become a mass of frost, and vegetation extinct. But as this is not the case, we may conclude there are

countervailing causes to such accumulation. Suppose for a period of years the northern ice should by slow increments, extend over the northern seas, would not heavy storms cutting on the ice, at length break it away from the land & clear the coast of the frigid region? If we can believe the accounts of some of the Northern Whalers this has actually happened, within 18 or 20 years. East Greenland had been inaccessible for a long period, and hence invisible to ships in the adjacent seas; but about 1816 it was found that the ice had suffered a great decrease, about 2000 square leagues ~~disappeared~~ and left the coast visible, & ice islands were seen as far South as 42° S. Latitude; and may have had some effect on the temperature of the summer of that year.

There may be other countervailing causes beyond our ken: And when we consider that the Earth is filled

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with inhabitants, with adaptations
for their support, we may safely re-
ly on that infinite power which framed
the vast machine of the Universe, for
a continuance of these adaptations; I
rest assured that man will find a
comfortable residence, whenever he may
be placed on the globe, provided he
makes due use of the means this pow-
er has placed in his hands.

If the crop of Indian Corn will ^{not} ripen
in our climate, we must change it
for others that are adapted to it; and
that this is not an indispensable article
is evident from the fact, that the north-
ern countries of Europe do not culti-
vate it, yet abound in other ferina-
ceous crops, which furnish ample bread-
stuffs for the inhabitants.

20 The Franklin Mercury's Notice of
the Bloody Brook Muster.

Though it was always rather sick-
ening to notice the pulsome per-
formance on the part of our
militia on field days, by editions
4

of newspapers, the time was when this might pass as the only resource they received from the public. Circumstances are now changed. The men required to train by our laws, now receive a reasonable compensation for their services; something of ^{real} discipline is thus expected from our corps revised at large. We would not find fault with these editors provided they would return their praise to the spirit of the men, without applauding their discipline. ^{But} when they talk of their "novel and picturesque uniform of their accurate evolution and perfect discipline"; it is empty declamation disgusting to every soldier of the military art. For neither their dress nor their discipline is fitted to the martial field.

If this declamation were under stood in no other light, we would let it pass for its own sake. But we object to it, because it has an injurious effect on that point of

The

the public who are ignorant of military science, and because it tends to perpetuate the prevalent notions, entertained by many, that militia men, chopped out in military banbles are fit for the field of battle - a gross error!

We would lustre else derive on our ^{training} corps ~~raised~~ ~~colours~~, for the spirit they exhibit on their parades, and ^{regiments} our regiment that the government do not see the necessity of encamping them annually in the field, two or three weeks, to enable them to learn such discipline as would render them efficient. The present plan of having them two or three days, or rather half days annually, is idle, if not useless, and thus pays little better than lost to the public.

The Cavalry are said to have made an excellent appearance. They did so; but not as a military body. They possess the spirit but not the habits nor discipline, to render them better than other mounted men among the spectators.

This species of troops might be employed with, in the militia, in time of peace; and at the commencement of a war a corps raised by government, suitable houses being furnished.

The editor has neglected to notice the Artillery companies, four of which were on the grounds with 8 field pieces. These corps are generally composed of the best men found in the militia, and could officers be provided who are capable and fond of the study of military mathematics, they would be valuable. In an annual camp under good military inspectors, they might learn much of their duty.

Gov. Everett is said to have embraced the troops in his usual felicitous manner. We are gratified to see him turning his attention to the subject of a militia, and affording his personal services on freemercy. But from some sentiments he has ^{expressed} ~~given~~ on various public occasions, we are apprehensive

purchasing that he is discerning of
 restoring the old system of training
 the whole of the uneducated man, ~~there~~
 which nothing could be more
 ruinous. Let the corps raised at
 large, be fitted up to the proper
 number - called into camps of in-
 struction annually, and a similar
 plan carried through all the States;
 and we shall at all times be ready
 to present a formidable body to an
 invading army, ~~and~~ whose services
 may be relied on, until a more
 law army may be raised by gov-
 ernment, to take the place of this
elite body.

Should Gov. Everett be instrumental
 in establishing such a system, he will
 justly merit the thanks of the patriot
 and the applause of his country; and
 honorable mention will be found to
 accept comparisons, not in a "clerked"
 but in an elevated, efficient and
 respectable militia, which would
 command the esteem of foreign na-
 tions who now smile at our insanity
 and pity our weakness.

21 Visit to Bemis' Heights.

Being at Boston in 1825, I met with
 Samuel L. May, the Editor of the Bos-
 ton Monthly Magazine, and in con-
 versation upon his ~~planning~~ ^{planning} he requested
 that I would furnish an article for
 the work. As I have made several tours
 into the State of New-York and visited
 the old Battle Grounds between Still-
 water and Lakes George and Cham-
 plain, and taken notes of the most
 interesting military operations in that
 quarter, I agreed to furnish Mr. May
 with a few extracts, and he inserted
 them in his March No 10. Vol. 1.

As I have generally found to be the
 case with ^{incomparable} all pieces offered to print-
 ers, many press errors have crept
 in, and in these extracts several are
 found. As I have considerable con-
 fidence in the general correctness of
 statements there made, I am choic-
 ing of correcting the few errors which
 appear, though they are principally
 misnomers, and do not affect
 the sense. The following is a list:

Page 508, tenth line from bottom, for ⁸⁶
Grunochins. read Guns.

509, line 14 from bot. for when read van.

510, line 4 from top, for flaminge read
flaminge.

Same page, line 18 from bot. for covered
read carried.

511, line 19 from bot. for have read here

512, line 7 from top, for west read west

513, line 14 from top, for paps read press.

Same page line 6, ^{may bot.} for Semson's read Sampson's

Same do. line 4 from do. for Butterhill read
Battenkill.

514, line 17 from top, for recruiting read
recruiting, or recruitment.

515 line 13 from top, after Morgan's insert corps

516, line 2 from top, for Butterhill read Bat-
tenkill. See the Vol. in my Library.

By reference to the plans in my manuscript
History of the Northern Campaign in 1777,
my traverse over the battle fields may be
followed. My Companion on the tour, was
Rev. Preserved Smith of Rowe who shared
in the battle of the 7th of October 1777. now
deceased - educated afterwards, studied at
Brown University Rhode Island.

In my various visits to these battle fields,

with Gen. Bungay's plans in my head, I think I have obtained a pretty accurate knowledge of the positions and movements of the American & British troops in the two actions of the 10 September and 7th of October. The ^{original} plans were drawn by one of Bungay's Engineers and the topography is well delineated. Where the positions of the Americans were faulty, they have been corrected from information obtained from officers who were in the engagements. The late Gov. Brooks, who was Lt. Col. of Jackson's regiment and commanded it in the absence of the Col. examined the copies of my plans, and afforded me ~~valuable~~ aid in my details of the battles.

Without monuments to mark the grounds they will be lost to future generations. This ought not to be.

Isometrical Perspective.

This new system has recently been brought into practice and is believed to be more simple and useful ~~than~~ than the common system laid down in our Books, in which the representa-

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tion of objects do not appear correct
unless the eye be placed in the point of
sight and at a proper distance. Thus
in a cube the lines are made unequal;
but in the isometrical they are drawn
equal, and all right angles are represented
either by 60 or 120 degrees and the scale
used may be applied to all points.

In the representation of complex machines
this is an excellent method of delineating
them, and is now used for that purpose
in preference to the old system.

To an eye habituated to the latter, the
drawing may, at first, appear in-
correct, especially when large objects
are represented; this however soon
vanishes, and all points appear very
natural. The only difficulty is in drawing
curves, but even these are more ea-
sily marked than in the old system.

The term Isometrical ^{or Isoperimetrical} is chosen from
the like terms, used in the delineations:
perhaps the term rectangular or parallel
perspective would have been equally
appropriate; the latter has been
used in what is called military pers-
pective ~~and used~~ in representing small

justifications, and three prints. Several of the figures in the plates representing Steam Engines, in the Edinburgh Encyclopaedia, are drawn by the isometrical method; but no account is given of the method in that work. In Gregory's mathematics for Practical men, may be found a short Essay on this perspective, by Professor Torricelli; but it wants elucidation.

The same work mentions that a Mr. Gosling, of Exeter, was printing a small treatise on the subject, for the use of mechanics and engineers, (in 1833.)

Autumnal Fevers.

1836

Only or fifty years ^{ago}, these fevers were very common, particularly in our valley; but of late they have become much less frequent, and yet the hill towns are more subject to them than those on the Connecticut.

From accounts from various parts of the country, it appears that these ~~fevers~~ are more prevalent than

90
autumn there is common, though we
have but a few cases in our valley. In
a letter from my son Arthur, dated Ben
gor Maine Oct. 8th, he states that he and
3 of his assistants on the rail road at that
place, have had a touch of the fever,
and that one of them was confined for
quarters 25 days - the others but 5 or 6.

In general flat and marshy situations
are supposed most liable to fevers
during the autumnal months, but this
does not hold true after they are
thoroughly cultivated. But Physicians
do not exactly agree as to the cause;
~~there is~~ most however are of the opinion that
they are produced by miasmata from
stagnant water and swamps; & that
autumnal vapors rise from these
and contaminate the atmosphere.

In a paper inserted in the Transactions
of the American Philosophical Society in
1799, written by ^{Dr} William Cowie,

he endeavors to show by experi-
ments that these miasmata do not
immediately or clinically, affect the health
of the inhabitants; but that they
extract, or lessen, the quantity of the

oxygen of the atmosphere - the fol-
lowing are his words.

"From the facts and observations
which have been stated, I think
it may fairly be concluded, that
the causes of the unpleasantness
of low and moist situations in
the summer and autumnal months,
is not owing to any invisible mi-
scrota or noxious effluvia, which
issue from the soil and lurk in
the air, but to a very different
cause, viz. to a deficiency of the oxy-
genous portion of the atmosphere
in such situations, in consequence of
vegetable and animal putrefaction,
in conjunction with the exhaling,
and elevating heat of the day,
and the sedative power of the cold
and damp air of the nights."

"For want of the refreshing & secon-
dary stimulus of pure air, all
the functions of the body are per-
formed imperfectly and languid-
ly. The nervous system in particu-
lar, becomes intentionally suscep-

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able of impressions from every change that occurs in the temperature of the surrounding atmosphere. The excitation of, or exposure to, or dampness and colder state of the air than usual, renders the vessels on the surface of the body prurient, and tonic, the brain and heart sympathize with the extreme nervous and vessels, the power of every function of the body declines, till the heart roused by accumulating blood reacts with increasing ~~force~~ velocity, and is relieved of the unusual burden.

The distinction here made by the writer appears to me to be not very important. If the microscope and in fact handles in this direct effect on the body, and get under the atmosphere inhaling by extracting its oxygen, it appears to me no obscurity to say they are the cause of the diseases which follow their operation. Suppose a plant to be transplanted until cut up on by some gas, or exhalation from the earth, and then to become a rank poison to the body, who would hesitate to say the gas was

93. was the cause of the jaundice?

But without contesting this point, the important question is how to remedy the evil. That clearing a new country of its woods, in latitudes not much ^{higher} ~~greater~~ than ours, since, at first, few diseases is generally admitted by physicians; and that cultivating them in a proper manner, will render them salutary is also agreed. Dr. Rush advises the planter in a new country, to clear no more lands than he can cultivate immediately, & that if he has wet grounds, to drain them, burn the vegetable matter on the surface and cover it with grass or other vegetation as soon as possible. While swamps remain covered with thick woods, he says the miasmata are not dangerous.

The cause of the fever mentioned in the letter of my son, probably was the opening of a wide passage several miles through a thick wood for a new way and letting in the rays of the sun, by which the air was rendered

unhealthy by misamata or diminution⁹⁴
of its oxygen. Bangor is in Lat. $44^{\circ}58'$
and is called a healthy place; but the
woods in its vicinity must be subject, in
a degree when cleared off, to the effects
of misamata in ^{other} new countries.

The question why cutaneous fevers
are more prevalent in one season than
another remains to be solved. Sudden
changes from heat to cold, no doubt
are predisposing causes, as is well
known to be the case ^{with} raw troops
when encamped in the fields in
old or new countries.

The causes of many of our diseases may be
beyond the human ken. Who for instance
can tell whence the cholera which has
recently travelled over most of the civilized
worlds and swept vast numbers to obli-
vion. We may conjecture, but what of
certainty can we know? We may talk
of variations in the atmosphere, but the
why and the wherefore may never ap-
pear. In short, science with its proud
boastings, though in some particulars
it has ascended to a high pinnacle, has ~~not~~
^{in other} but just entered the vestibule of the grand temple ^{of nature}.

24 Orthodox Efforts at Deerfield.

A party styling themselves the orthodox church has recently been formed in the Northern part of this town, through the influence of the neighboring clergy, and for several months past some kind friends have furnished them with a set of preachers, so called, whose chief object seems to be to restore the system of orthodoxy which had for many years been exploded by the majority of the people of this town. They it seems are constantly urging the unscriptural doctrine of the Trinity, as a matter of great importance. Young men from Amherst College and others, highly inflated with the enthusiasm of that institution, are pouring out their zeal with the hope of miraculously influencing the passions of the uninformed, and bringing them to their intended system.

yesterday, I am informed, one of these spiritual illuminations, in an equivocal language, declared from

the clerk, that God actually died ⁹⁴
on the cross to redeem ^{us} from the ruin-
ous situation into which we had fallen
by the disobedience of Adam & Eve, nearly
six thousand years previous to the time
in which we were born.

Considering the force of old errors, we
do not so much wonder at such audaci-
ty, ~~on~~ young enthusiasts, as we do, that
men of common sense should be found
who have patience to listen to their
sacriligious rant. But we trust that
small numbers will be found
among us, to assent to the horrible
~~doctrine~~ that the infinite God of the
universe was born of a woman -
created, brought before a Roman
Court - condemned and actually put
to death on the cross!!!

Men who do not reflect, may be-
lieve any thing, however absurd,
or think they believe. We are told
that the doctrine of the trinity is a mys-
tery, but that we must believe it
because it is found in the scriptures.
We on the other side say, it is not
to be believed, because it is not to

be found in the scripture. If a few texts are found in our common ~~translation~~ ^{version} which seem to favor the election of churchmen of an opposite purport are ~~found~~ ^{seen} in which in plain and positive language assert the contrary. We are told also that there are mysteries in natural philosophy and yet we believe them - True we do. We see for instance, that the magnetic needle tends to the magnetic pole by some unknown power, and we admit it; but if we are told that the needle assumes this direction, and at the same time it points in a different direction, we do not believe it; for it involves an absolute contradiction; and here is an important distinction which we should remember.

To us it appears, that so long as the election of the trinity is held to be essential to Christian trinity, men of enlightened minds will be slow in believing it.

20.
If they can be inclined to believe the
doctrine is really to be found in the
scriptures, the result, instead of pro-
ducing a belief in ~~the~~ ^{things}, will be the
rejection of the scriptures; for the
same reason they would reject them
should it be found that they denied
the truth of ~~the~~ demonstrated propo-
sitions in geometry.

But we are now relieved from
this absurdity, by the researches of
a learned clergy and others, who
have examined the subject, without
the trammels of old systems. A relig-
ion is now proposed, which is
not at war with science; and few
enlightened men subscribe to the
belief that the great God of the
universe was exerted on the crops.
Enthusiasm may rage and continue
to alarm the uninformed; but it
can no longer obfuscate the bright
rays of truth, or hold in shackles
minds that dare to think and ex-
amine, with ^{out} the force of the positive
spiritual masters.

Of Certainty and Belief.

We often use these terms, or what I call their synonyms, knowledge and opinion, without definite meaning: thus we say we know a thing when we only believe it; and ^{that} we believe it when we are certain of it. Certainty and belief are two distinct things. By the former we mean that we know a thing to be -; by belief that we are of opinion that it is true, but at the same time it may not be true.

Positive knowledge is derived from three sources.
 1. Intuition, or ~~as I have included~~ what are called axioms, or self evident truths. As that the whole is equal to its parts; things equal to one and the same thing are equal to each other; $1+1=2$ &c. These axioms, when the words by which they are expressed, are understood, strike

the mind as certain, and no train of reasoning can make them more obvious.

2^d. Demonstration: or that proof of a proposition by a train of reasoning founded on axioms, which leaves no possible doubt; or in other words, cannot be other than true.

3^d. Seeing and Touch. These I am aware have not been considered as certainty by all. But I think a sense man who sees and feels, is certain that the objects which produce these sensations ^{do} exist. A person may indeed think he sees and feels, when he does not; but this cannot be ^{done} with sound organs & sound minds; and we ^{cannot} be deceiving any other ~~being~~.

Knowledge derived from syllogisms we leave out of the question, ^{as they are} believed to be of no great importance in determining truth.

All other knowledge amounts only to probability; but this may be such as to satisfy the mind beyond doubt; at the same time

it may, or may not be true.

Such is all historical and ~~by~~^{by} testimony; and in them the weight ~~of the evidence~~^{of the evidence} depends on the credibility of the ^{witnesses} person making it, and the matter of which they testify. When the thing asserted is improbable or preternatural it requires the testimony of many intelligent and disinterested witnesses to produce assent or belief. Thus suppose one should assert that he came to a River, and to pass it, he set fire to the water and burnt a passage, through which he crossed on dry land. In such case we should disbelieve him: even if he had hitherto been esteemed a man of strict veracity; ~~then~~ we should say that it was more probable that he was under a mistake, meant to deceive, or was insane, than that the thing asserted was true. But I mean not to say, that multiplied testimony by others, to the same fact

who ~~are~~ disinterested and un-
connected, are much more
credible more,
would not be sufficient to produce
belief; but that the testimony must
be of the strongest kind to have this
effect, and that it would still be
only probability.

There is another kind of evidence
which may produce ^{assent} belief; as when
we rely on testimony ^{or operations} without seeing
the truth of ~~them~~ from a belief that
~~that~~ honest men, without any in-
crement to deceive, and who are
masters of their subject, make ~~them~~. Thus
if a Newton, a Laplace or a Bow-
ditch say, they have demonstrated
a proposition ^{in mathematics}, which we are unable
to trace, we believe it to be true, be-
cause we believe they fully under-
stand the subject. This may be
called ^{assent} ~~certainty~~, but we are not certain
that ^{what they have} ~~they have~~ told us ^{is} the truth. This
only probability, and all we can
say is, that their proposition is
true if they have demonstrated it.
~~Since~~ Thus we make use of the theorem
that

Such is this argument and
some examples

they have elected, without know-
ing them to be mathematically
correct: and thus a great portion
of our Seamen, who determine their
longitude by the Lunar methods
laid down in their books, proceed
without ~~knowing~~ ^{computing} the principles on
which they are founded. But in ~~the~~

~~But~~ Out of mathematics, there are
many things incapable of demon-
stration, which have an authority
proof sufficient to produce ~~the~~
~~firmest~~ belief. Thus, the proofs of
the existence of the Deity do not
amount to demonstration, yet
I think, they come little short of
it; and no intelligent man who
has examined the machine of na-
ture, can say he wants further
proofs ^{of this} important truth. ~~in~~

Thus, though we cannot arrive
at absolute certainty in many prop-
ositions, we may generally adduce
probability, ^{where there is truth,} on which the mind
may rest satisfied. Hence we
very give credit to the accounts
given

* in all cases in which propositions do not
admit of demonstration, their reliance should
be ~~entire~~ ^{proportional} to the certainty.

handed down to us by historians provided they are not supernatural; and where they are clearly so, it is proper that we should require higher proof of their truth, than we do of ~~those~~ of common events; and here we must rest on probability.

The evidence of the truth of Christianity is historical, and rests on the same ground with other historical evidence, with this difference, that some of the facts connected with it are supernatural, and therefore require stronger testimony, than common events; it can therefore amount only to probability; but the probability may be so strong as to produce firm belief.

The pretensions of some that they have received supernatural ~~evidence~~ ^{light} from above yet cannot explain to us what it is, other than they have it because they believe they have it, I lay out of the question; for this ^{impulsive} ~~is~~ ~~is~~ is as strong in a Mahometan, as the Hindoo widow who burns herself

on the funeral pile of his dead
 conscience, under the belief that
 his sacred books require this im-
 molation, as it is ^{the} greatest vi-
 tuousness of piety. The
 foolishness is. That these impres-
 sions are the workings of a heated
^{or blind} imagination, whose earnest rea-
 soning and clear spirit, never were
 excluded a place.

Men may thus bewilder them-
 selves and fancy they are inspired;
 but I believe few well balanced
 minds can be thus deceived. Let
 such, if they can lower the heat
 of their zeal, reflect that know-
 ledge is not thus ^{to be} infused into
 the mind; - that men are born
 with certain powers bestowed
 upon them by the creator, which
 if cultivated when they arrive at
 the age of sober reflection, will
 enable them to distinguish between
 right and wrong, truth and error;
 and that absolute certainty is
 not attainable in propositions ^{that}

that do not admit of intuition or
elementary proofs. Let them exam-
ine the modes by which they convince
themselves in other subjects, and they will
find that they use the same process
of reasoning to convince themselves of their conclu-
sions, as those who claim no aid from
supernatural light.

The zealot in mathematics or natural
philosophy, who suddenly hits up-
on some hidden truth, and with as
much propriety claims the aid of
supernatural light, as the zealot
we have mentioned: for the principles
of those sciences are not less the work
of Deity than those of pure theology.
In history of the sciences
When it is true we have expressed them
in terms of their own language, but the
principles are not the work of their
hands. Thus, for example, The sides of
all plane triangles are in direct
proportion to the sines of their op-
posite angles. This is an eternal
truth, man has conceived ^{it} in his own
language, but has not made or
contrived ^{the principle} it, he only applies ~~it~~

to his use, what the Deity fixed
or established; and to say, this prop-
erty of the triangle is a human
invention, is obviously erroneous.
The same may be said of the
principles of astronomy, chemistry
and all other sciences which are
founded on fixed ~~principles~~ laws
man by his ingenuity discovers
~~these~~ ^{these}, but has no more hand
in contriving them, than he has
in the construction of the planets,
and the laws that give ~~them~~
their motions.

We have seen that if the proof
of the existence of Deity do not
amount to demonstration, they
are little short of it. We are
rather inclined to consider them
~~as sufficient~~ ^{as sufficient} than demonstration.

With ^{the} well informed they appear
so, on the first view they strike
their minds with the force
of axioms, and leave no doubt.

There are some who
claim to be informed, who

who deny the existence of the Deity;
 but these I think have been aside
 common sense, and have been thrown
 aside with subtilties, ^{absurdities} ~~as those of~~ Bishop
 Berkeley, when he has it down
 as a truth, that the objects of sight
 & touch ^{are} nothing but ideas in the mind
 and ^{who} deny the existence of any
 kind of matter whatever.

The principles of morals are thought
 by some, to be capable of demon-
 stration. So is it ^{expressed} that some
 of them, are rather intuitive than de-
 monstrative; but whatever mode
 we follow to arrive at them, perhaps
 it is enough that we are ^{convinced} ~~convinced~~ of
 their truth.

In what we have advanced above
 we are not certain that we have
 made clear expressions; but we believe
 the principles are generally cor-
 rect. our object is, to enforce the im-
 portance of examining the truth of
 propositions, so far as they are ca-
 pable, rather than resting on the
 faith of others.

26 Report of a Survey around the Falls of Niagara, with a view to the construction of a Ship Canal to connect the waters of Lakes Ontario & Erie, made in 1835, under the direction of Capt. W. G. Williams, Topographical Engineer.

This Report is comprised in a pamphlet of 75 pages, accompanied with 4 topographical plans and profiles, upon large scales.

The plan is to construct a ship or steam boat canal for the passage of these vessels, in case of war with Canada, and for commerce in time of peace. Several routes have been examined; one from the head of the falls, along the bank of the Niagara to Lewiston where it is to enter the river; others to the eastward, but on all the routes, the Lewiston Heights must be passed, which will render the construction laborious and expensive. The first route is the shortest and will probably be the least expensive. but to me it appears

- fears, that, in case of a war, it would
 be much exposed to annoyance from
 batteries erected on the Canada side.
 This consideration may render a more
 eastern route preferable; and whether
 our government will consider the import-
 ance of such a passage worth the expense,
 is doubtful. The report suggests that
 in future wars on the lakes, steam com-
 munication will be extensively used; but
 of this I have some doubts. These
 vessels can be used with great advan-
 tage in the transportation of baggage
 provisions &c. &c.; but I can hardly
 believe it will be safe to convey gun-
 powder in a vessel which requires so
 much fire to work it as, ~~steam~~ ^{blast}.
 With all the precautions within the
 power of man, this sort of vessel will
 be exposed to the most fatal accidents
 when conveying the requisite quantity
 of gun powder for a naval action.
 This, it appears to me, will for ever pre-
 vent an extensive use of steam vessels in
 naval warfare, other than for the

transportation of Stones of a quality very different from gun powder.

One inducement for the project of this canal, is the construction of the Welland canal on the British side, by which it is supposed they can convey their ships from the Ontario to Lake Erie in case of war. Suppose they can do this, will it give them any advantage over us? Will it not be necessary for them to keep a consistent naval force on both lakes in time of war? and may not vessels built on the two lakes answer all the purposes.

For example. Suppose the British to withdraw the whole or part of their naval force from Ontario, and carry it into Erie by their canal, by what means can they to carry on operations in the former, or defend its shores. They might it is true, present a superior ^{force} on one lake but they would be inferior on the other, and what they might gain in the one case would be lost in the other. In short it appears that the advantage

to be obtained from a ship canal ^{as} is proposed, would not justify the expense. Is it then important as connected with the commerce of the interior? Since the construction of the mohawk and west ern canal, it appears, ~~it is not~~ ^{it is not} the commerce of the interior does not require the projected canal; for if it were completed, the ^{principal} trade of the interior would be carried on through the river, excepting that of the south shore of Ontario, and even this would be about as well accommodated by the present canal as by the projected one. In fine, all the advantages that might be gained by a ship canal are already within our reach.

If the present canal is insufficient for the transportation of the stores requisite in a war with Canada, would it not be wiser for the U.S. to aid or be at the whole expense of enlarging it, to answer that purpose; this it appears to me, would be strictly within the federal constitution.

The report displays ~~engineering~~ science.

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The descent in the Niagara River
is given as follows

Falls
of
Niagara

The rapids commencing about a mile
above the main fall, about — 52

The main fall on Canadian side 164

Thence to Lewiston ————— 103½

Thence to Le Breton ————— 2

Total feet — 321½

The distance is stated at about 35 miles,
from Lake to Lake.

In the plate which contains Niagara
river, from the head of the falls to its
outlet into Lake Ontario, a view of
the country bordering on the river
is given, according to the rules of per-
spective. This view embraces Lake
Erie near Buffalo, and it is seen
at the southern extremity. The sup-
posed place of the observer is a
high point over the southern mar-
gin of Ontario at, or near, the mouth
of the Niagara (a bird's eye view.)

Views of this kind may be drawn
from a topographical map, by aspinning
on elevated point, of a given height,
and deducing the lines and surfaces
by trigonometrical calculations.

27 Florida War.

By our news-papers it appears that troops are assembling in Florida for another attempt on the Seminoles, a great portion of which are encamped in a militia; and whether they will be more successful than the same force were last year, is to be seen. Many of the regular corps stationed there during the summer are said to have suffered severely with sickness, and indeed almost destroyed.

Gen. Jackson may boast of his success in his campaigns against the Indians; but I believe he at no time penetrated into their swamps south of the withlacoochee, ^{if so far} nor met them on their own grounds, or rather no grounds. The ^{present} commander will find that all his skill will be called into requisition to force these wild fellows from their everlastings, & may reap no more laurels than did Gen. Scott the last season, who was so severely censured.

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The Indians may however be brought to terms in the course of the winter; but if it should turn out otherwise, it would not be a strange result.

Gen. Scott we understand is to be brought to trial before a Court martial for his failure last year, and I think if the court is composed of real military judges, he will be honorably acquitted. Had indeed would it be, if he is condemned for not sweeping the impunctable swamps of that extensive region, with an unrelenting force; nay, with almost any force, at the time he advanced upon the invincible enemy. But the public voice has been loud against him and this may smother him. Commanders sometimes find no favor under such circumstances; and with our wild military notions, it is impossible to calculate results.

Last year the redoubtable Gen. Gaines, after marching from Tampa Bay to camp King, once thence "back again" to the Withlacooche, where he met with

his bones and clops as the only means of avoiding starvation, which his improvident measures had brought upon ^{him}, boasted that he had ended the war on the peninsula; and not content with this report, condemned Gen Scott for his tardy movements, and book tactics. Might it not be wise to appoint him Governor over his consequence territory, to adjust all difficulties with Osceola?

One fact in this war, cannot be kept out of sight, and that is, ~~It is~~ It is just one the point of the Indians. But having roused them to hostilities, there may be no other means to restore peace but to conquer them; if this be the case, effectual measures should be taken, without delay, to ^{accomplish} ~~effect~~ this object; since it is to be regretted that we have not a disciplined force adequate to this service.

The war, unfortunate as it is, we hope will teach the United States a useful lesson. viz. that to preserve peace we must be prepared for war.

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28. Letter of Benjamin F. Hallett to Gov.
Everett, May 14th 1836.

This letter we find in Mr. Hallett's
advocate of Oct. 10. 1836. ~~It is incorrect to~~
~~show that~~ ^{made in States} Daily advertiser, touch-
ing the Gov. and not true. we give
a few extracts. after noticing a former
appointment made by his Excellency,
obnoxious to antismasons, Mr. Hallett
says "I was personally deeply injured
by your intimation that I had boasted
of being in your confidence, which you
represented as a source of complaint
among your whig supporters; but
I never conjectured that you had so
placed yourself in the power of the whigs,
and excluded your antismasonic
friends, as to preclude yourself from
the appointment of any antismason
to office, unless he would support
not only you, but your friends the
Webster" league. "I was not, however,
aware of your determination to ap-
point none but whigs to office,
until in the conversation I had with
you, by your request, in March last

you stated that you could not consistently nominate to office any antismason - who was opposed to Mr Webster and in favor of Mr Van Buren, except the "Office of Justice of the Peace". - He says he respected his surprise, at this, to the Governor and sent to him that "if such was to be your course, I wished an honorable discharge from our political connexion, on the ground that I could not support a man who considered me, and the whole political party disfranchised, for our opinions on the Presidency."

Mr Hallott says the letter was received by the Gov. on 21st of March, and as he was about to go to Springfield to attend the centennial celebration, he had no time to answer it then.

No reply being received by Mr H. on his return, on the Governor's return, he addressed a second letter to him on the 2^d of June, not he sought to request a reply, but simply to express to the Gov. that "I must feel at liberty to regard your silence as

admitting that I did not misapprehend the course you informed me your relations to Mr Webster made it your duty to pursue - as stated in his letter of March 17th. no reply from the Gov. Mr H. states, had been received up to the 17th of October.

Mr H. cannot with propriety demand a reply; but if he has ~~mis~~^{mis}stated facts and the Gov. remains silent under them, we have a right to draw our inference and as he has made some appointments highly obnoxious to us, our inference cannot be favorable.

If he has in fact, gone over soul and body to ^{our} violent opposers, have we not consistently supported him at the coming election?

For myself I regret that he has given suspensions of deserting the cause he once supported. That some men who refused to vote for him for the office of Gov. are now much in his favor we are sure; and we could state some facts, at which his Excellency might perhaps be a little surprised; but we withhold them for the present.

In his answer to a committee of Aristocrats of the County of Middlesex, who had addressed him on the subject of Masonry, alluding to the letter of Mr Wirt on the same subject he says. "The supremacy of the Law, is the fundamental principle of civil society. The allegiance due to the Country, is the highest human obligation of all men who enter into civil society; and I conceive the Institution of freemasonry, in its tendency, to be at war with both these principles. And further - "The force of these objections is immeasurably increased by the fact, that within a few years, the institution has been actually made the instrument of the greatest (perhaps irreparable) evil, which can be inflicted on society, the destruction of the life of a citizen! followed up by systematic and successful attempts to screen the murderers, in defiance of the most rigorous efforts, on the part of the tribunals, to bring them to justice." - What could be more just than this plain declaration! The dis-

covers his discomfit when he
 adds the following: "When I reflect
 that Warren and Washington among
 the dead, and Marshall, among the living,
 and numbers of pious, virtuous, and
able men in the community surround
 us, (some of whom I have the happiness
 to count among my personal friends)
 were members of the institution, I decidedly
 adopt the sentiment of Mr. Wirt in refer-
 ence to the same point, 'Both justice
 and prudence demand discrimination
 even that it would be an unjust pro-
 scription to involve ~~the~~ innocent and
 honor with guilt and treason'.
 But how did Mr. Wirt reconcile this?
 He denied that this was the reason-
 ary of these men, and truly, for at the
 time they were initiated, there
 were only three steps in its temple,
 and even they were very different
 from those of the present. The Chapter
 has since been introduced into this
 country, and the higher classes
 were then embraced; and was Mr.
 Everett ignorant of this; after he had
 seen the developments of numerous

masons in his own, as well as other
 States? It cannot be! Have there
 could be monument to virtu-
ous and honorable, who rested un-
 der the oaths of the higher orders,
 once declined, or refused to aban-
 don them, as harmless? He might as well
 have told us of virtuous robbery or
honorable murder. To the exponents
 of these oaths we hesitate not to say,
 virtue once lost cannot be found,
 in juxtaposition with them; and si-
 lence in their recipients, must ex-
 cite suspicion, and doubt; and
 that, in the language of Wh. Wort,
 no man of common prudence can
 sleep over the disclosures of the prac-
 tical exhibition of masonry, we have
 had in the State of New-York.

No virtuous and honorable man
 can justify the oaths of masonry, as
 they have been given to the public;
 nor can any rational man who
 has examined the evidence of their
 development, intimation doubt
 that they are truly revealed to the
 world

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world, without putting it defiance
all human testimony. If any man or
creature then can ~~cleave~~ them to be
harmless, he must give up his claims
to virtue and honor, and leave the
praises of good men. Some among them,
I believe, are honorable men; but when
I find them entitled to this epithet, I
am confident they are no friends
to the authors of the Institution, nor the
actors of its savage rites and ceremonies;
and that they would repudiate the im-
putation were they more humble in
opinion. ~~Silence~~ must be ~~noted~~ con-
sidered as a sort of negative quantity in
summing up their virtues.

In conclusion, of Gov. Everett we say,
that with his high literary acquirements,
his sound moral principles, and ~~invaluable~~
winning eloquence, he may be wanting
in that firmness of purpose indispen-
sable in a chief magistrate of the State.
We do not however, say that he is thus
wanting; but we are not without
fears that this may ultimately be
the conclusion of candid men.
"Go err is human - to forgive Divine!"

29

A meteor observed at Deerfield.Oct 24th

Last evening about 9 o'clock a number
 of people who were in our St. A. near
 the brick school house, saw a large
 meteor in rapid motion, bearing about
 west, at the height of the sun when
 about an hour high, as one there
 expressed to me, attended with a
 bright flash, and soon after a heavy
 report was heard from the same
 direction; which lady in my house
 states, jarred the building. She however
 did not perceive a flash. one of the
 persons who saw it, estimated its
 disk at about the size of the crown
 of his hat.

An observer who was at Lyndon
 about 10 miles north of us, states the
 meteor was seen at that place, in
 a direction southward, and the report
 heard, like a clap of thunder, except
 the usual reverberation.

Was this an aerolite or a common
 meteor? If the former probably there
 must have been a fall of stones. We
 wait for more particulars from other
 places, certainly of us.

The

The phenomena of this meteor were similar to those observed ^{at} Amherst in August 1819, as given by Rufus Granger Esqr. in the 2^d. vol. of Silliman's Journal, p. 335, and that he says was attended with a report, but instead of stones a gelatinous matter was found where it fell, resembling in form a saucer or saucer dish bottomed up-wards, about eight inches diameter, the interior of which resembled good soft soap, of an offensive suffocating smell.

In all cases of this kind, which have fallen under my observation, no report has been heard; and I had supposed, that this never occurred ~~except~~ ^{unless} the meteor was an aerolite.

It should be mentioned that at the time the meteor was seen here, the sky was ^{nearly} overcast with clouds; but I have not been informed that lightning or thunder was observed; and I remained some myself, though sitting before a south window, with a lamp on my table. According to the theory of Professor Olmsted, this is about the season we are to look for meteors.

30 The Crop of Indian Corn.

In the notice of the Frost that occurred on the 6th of September last (see page 1), we concluded that the crop was not materially damaged. Our people are now (at 24th) gathering it, and it confirms the conclusion we had made was erroneous. About one half of the ears are little advanced of the ripe state, and the other half, imperfectly ripened. Probably the imperfect will not dry sufficiently for grinding into meal, and must be fed out to cattle and swine in its soft state. Of course the price of the sound part will be high, unless we are supplied from the southern States. Old corn at this time sells at 150 cents the bushel; on the seaboard I am informed the price is less, owing no doubt to the importation of Southern corn. We are informed that snow had fallen in the State of New-York to the northern end of Otsego, to the depth of 16 or 18 inches, but had since nearly.

choolwell. This day the weather very mild and pleasant and we can sit comfortably without fires. Whence these changes? Certainly from other causes than the suns influence. The declination of this body is now $11^{\circ} 52' 44''$ South. and of course in meridian alt. $35^{\circ} 34'$ (nearly). Shall we then look to subterranean heat for these variations of temperature? This may be the true source, combined with the general influence of the sun; but we seek in vain for certainty, and must rest on probability. One thing however is certain; no one can predict the state of the weather at a given time.

31 Lecture on Electricity.

Last evening, at 25. Ten young men Mr. W. J. G. this evening a lecture on this science, in our brick school-house.

The principles upon the hypothesis of two fluids, vitreous and resinous, were stated with considerable ingenuity and elucidated by an extensive apparatus; his machine of the Plate kind. Several discharges were made

with Volta's electrical pistol, charged with inflammable air; the report was loud.

The experiments to explain the rationale of lightning rods were the most interesting. The squire prefers metal with rough angles, he prefers to the smooth cylindrical one, as more secure to defend a building against a lateral stroke; and thinks the size of a nail rod sufficient. Several he supposes are necessary for large buildings once they should be connected and carried into the ground in various places, and the ends pointed.

Some of his positions I thought doubtful. He asserted that a dead animal was a non conductor of electricity, while a live one was a good conductor. This seems at variance with all the ^{electrical} principles with which I have been conversant. Is the life of an animal the conductor instead of the body? I know not on what experiments he founded the

the experiment; nor can I believe it to be ~~correct~~ correct. The light of a flash of lightning he thinks is produced by influencing a part of the air through which it passes, which appears very doubtful. He placed a rod in the current of his battery, and by a cone extended over him, both extremities in contact with his chair, the charge passed without injuring him; but this being removed, and the rod made a part of the circuit, the shock instantly ^{explosively} killed him. This experiment was to show the safety of rods and that an animal would not be exposed though very near one. This may be true in small discharges; but with the quantity found in a shock of lightning, it may be otherwise. If the rod be of a small size, and the charge heavy, and especially if the rod is not carried well into the ground, where it is moist, the fluid may be attracted from the rod to other near conductors. This sometimes occurs.

Mr. Giles thinks a blacksmith's

Shop filled with iron, is a safe place in a thunder shower; because the lightning, if it strikes it, will be so diffused as to snap off beams. A quantity of smooth iron, without pointed terminations, will attract the lightning, but at a small distance; once this has proved by an experiment; and if the iron is perfectly insulated at some height from the ground, probably it would no more attract lightning than an equal bulk of wood.

Most of the experiments performed by Mr. Gile, might be explained upon the Franklinian system of positive and negative ~~and negative~~ electricity; and whether this, or the hypothesis of two fluids ^{is true}, must be determined by future observations and discoveries.

On the whole, the lecture was useful to students in electricity; it was addressed to the reason rather than to the imagination, and though less attractive than those ~~have~~ we often hear, it was infinitely more beneficial.

Of the Spider.

This curious Insect, as formerly called by Linnæus, but now ranked under Crustacea, has often attracted much curiosity, by its ingenuity in spinning its web and taking its game, as well as its other curious properties.

In the latest works on natural History it is arranged as follows, under Crust. Zoology, a branch of Zoology.

Class 2 Arachnides.

Order 1. Podosoma.

Genus 9. Araneides.

Spiders change their skins annually, and the mode of weaving their nets is interesting. They are provided with five teats or nipples at the extremity of their bodies, the apertures of which they can dilate or contract at pleasure. Through these holes they emit a grey matter, which is contained in a bag communicating with the nipples. They attach the end of ~~the nipples~~ of their threads by applying their nipples to any substance and the threads are lengthened as the

animal reeled from it, and immediately became by repose to the air. They can stop the spinning by contracting the nipples, and ~~and~~ ascend the cord they have spun with wonderful facility.

Some spiders have the power of cleaving long threads to a great distance, by which they convey themselves across rivers or chasms.

The threads thus sent out serve to mount them into the air on which they move to great distances. In a fine clear day in autumn, these threads may be seen from the tops of steeples or other high places, floating at great heights, invariably carrying the spiders with them; and it is said they use them just as oars, ascending and descending at pleasure.

The use of these webs seems to be to catch their prey; once secured in a hole near, they climb up upon insects when they get entangled, and soon dispatch them.

For further details see Edinburgh Encyclo.
Vol. 4. page 257 -

Some of these animals in evening

climatic, are large, and so strong 134
as to catch small birds. William Bar-
tram in his travels in Florida, relates
a curious case of this kind, in his pleas-
ing manner. See Introduction to his Book,
in our public Library.

33 Of the bursting of boilers in boats pro-
pelled by Steam.

In 1832 Congress instituted an enquiry
upon this subject, with a view to intro-
duce some remedies to the destruction
of the lives and property of our citizens.
A circular was addressed from the Treas-
ury department to engineers and other
men of science, in various parts of the
US, which elicited a great number
of answers, containing useful matter.
Various censures were expended for these
evils, and schemes proposed to
remedy them; but the bill was
reported in the House for that pur-
pose, nothing was done.

Many of the communications made
by gentlemen, to whom the circular
was sent, were ingenious, embracing
the principles of hydrodynamics and

Chemistry, but there appeared a considerable diversity of opinion among the writers.

In that of Mr W. L. Reelfield of New-York a statement was given of the number of explosions that had occurred in the U.S. from 1814 to 1831 inclusive, the total as follows.

Nº of Boats 52. Killed 254, wounded 144. Many other similar accidents have since occurred.

Mr Reelfield thinks the above list of the killed, below the real numbers. and puts them down 300.

In some of the communications of engineers, mathematical learning was displayed and algebraic formulae were introduced in the calculations. But now I think exhibit more good common sense than that of Mr C. A. Davis, one of the directors, and President pro. tem. of the New-York and Boston Steam Company. In the case, he ~~says~~ ^{remarks} "Let the scientific mystify and puzzle themselves and others as they will about safety valves and safety valves, steam gas,

pressure of atmosphere. and the dis-
 ference between an explosion and col-
 lapse, it is enough to know that
~~that~~ these accidents are likely to oc-
 -cur; and more likely, when it
 is insisted on by the travelling com-
 -munity that a boat going 10 & 12 miles the
 hour is preferable to one going but
 5 or 6. And therefore, until it is
 clearly proved, by long experience
 that a boiler won't burst, nor a
 flue collapse, I think there is
 wisdom in generalizing ad interim,
 against this destructive conse-
 -quence.

This appears to be a fair statement
 of the case; and if men choose to invent
 schemes to fly like birds, they must
 expect their wings will sometimes
 fail them. The truth is, we attempt
 too much speed both in our steam
 boats and our road cars; and with-
 out the precautions within the pow-
 -er of man, fatal accidents will hap-
 -pen. On the whole, it must be admitted
 that Steam Boat navigation is an unsafe
 mode of conveyance.

It may be said indeed, that no vehicle
 affords a safe conveyance, on a convey-
 -ance not liable to accidents. The distinction
 here intended to be made is, that ^{land} conveyances
 of a simple construction are fully under-
 stood, and any weakness or failure
 of their parts, are seen by an eye of ordina-
 ry care, and may be easily remedied;
 But in a Steam engine so complex as those
 used in large boats, the twisting & col-
 -lapsings of the boilers, are owing to so
 many causes, that it is difficult, if
 not impossible for the ^{most} vigilant to fore-
 -see and effectually guard against them.
 A boiler submitted to the most rigorous
 trial of its strength may soon after
 become defective, unknown to the en-
 -gineer, and explode with most terri-
 -ble consequences. The accidents that occur
 on land are ⁱⁿ no degree so fatal; and where
 is the man who would not prefer a broken
 limb, or even a head, to an explosion of
 a boat, where not only his limbs may
 be broken, his body enveloped in a furious steam
 but projected into the sky like a bomb-shell,
 then to sink, food for sharks! —

34 Lothrop's Ambuscade

In Drake's Book of the Indians (Book 3^d. page 27) we have some particulars of this affair, not found in Hubbard.

The force sent from Houlley to Deerfield is said to be 80 men ^{who} on their march from Deerfield ~~they~~ were attacked at Sugar Loaf Hill, by a force of Indians, computed at 1000, and almost every man killed: 18 of the slain belonged to Deerfield, said to be townsmen; the whole number ~~being~~ there would be 106 including the few who escaped. The Indians killed, are stated at 96. "They cut open the bags of wheat and feather beds, and scattered their contents to the winds".

The force under Mosely is stated at 40 men, who fought from 11 o'clock in the almost night, when he was obliged to retreat with the loss of 2 killed & 11 wounded; but Major Innes coming up with 100 English and 60 Mohicans, the attack was renewed and the Indians compelled to retreat. When Mosely first approached the ground the Indians closed him to begin the fight, and

exultingly said to him "Come Mosely, come you seek Indians, you want Indians; here is Indians enough for you".

It is stated that Lottinose suffered his men to stroll about while passing a dangerous defile, many of them having been so foolish and secure, as to put their arms in the belts, and step aside to gather grapes. one writer says "this was a black and fatal day, wherein there were 8 persons made widows, and 26 children made fatherless, cut in one little plantation, and in one day; and above 60 persons buried in one dreadful grave".

This probably must be the one recently found in the street, in front of Mr Whitney's house. All, it is presumed, were not buried at that spot.

Mr Drake quotes as authorities J. Matthews History of the war, and a manuscript Letter written at the time in the former was shown to me by Mr. Everett last winter, and he ~~thence~~ informed me it would be published in the next number of the Historical Collections: the letter should also be printed in the same work.

Records of the Variation of the ¹⁴¹⁰ needle

In Proud's History of Pennsylvania I find the following notices of the variation of the needle in early times, taken he says, from Dr Douglas. Summary of the British settlements in America.

The streets of Philadelphia, anno 1682, were laid out with great precision,

N. 18° E: anno 1742 they were found to be 15° E. This in 60 years, was 3° alteration, ~~and~~ one degree in 20 years, decreasing.

In running the line between Pennsylvania and Maryland, in 1686, the variation was 9° westerly. In 1739, in running the east and west line, it was found $5^{\circ} 30'$ west; difference $3^{\circ} 30'$ in 53 years.

In 1743, in running the line between East & west Jersey, 150 miles & 20 Chains, the variation at the south end, (at Egg-Harbor) was $5^{\circ} 25'$ west; and at the north end of the line, on Delaware River, Lat $41^{\circ} 40'$, it was $6^{\circ} 35'$ west.

In 1739, the line between Pennsylvania & Maryland (about 15 miles south of Philadelphia) was run with a variation of $5^{\circ} 30'$ west equal about one degree in 20 years.

At Cape Henlopen, 1740 the variation

was 4° west, decreasing. See Pronel
 vol. 1. page 245 - Philadelphia Edition 1797
 Chap. 5. - The variation from the first
 settlement of the country, until about
 1812, continued to lessen, or the north end
 of the needle moved easterly; since 1812
 the needle is moving westerly, or increasing.

In early times the boundary lines of
 the provinces were run by the mag-
 netic needle, of course, without much
 accuracy. Astronomical methods are now
 adopted. The first survey of this ^{inaccuracy} kind,
 believe, was made by Charles Mason and
 Jeremiah Dixon, in 1762 two English
 astronomers who, the year before, were
 employed to observe a transit of Venus
 at the Cape of Good Hope. These two gen-
 tlemen ran the line between Pennsylva-
 nia and Maryland, by tracing a
great circle once setting off into the
 latitude [See page 72 of this book]

Climate of the Mississippi Valley.

Until recently it has been the general
 opinion that the climate of the valley of
 the Mississippi is warmer than ~~the~~

that of the same latitudes in the more ¹⁴²
time distant; and I had supposed the
fact too well established to admit of a
doubt. M. Volney, who travelled extensively
in the United States, subsequently to his
arrival in 1795, instructing upon the Missis-
sippi valley, says, "the climate is warmer
in the proportion of three degrees of
latitude than the meridian distant".
But some are now disposed to consider
him as a visionary theorist, and assert
that Volney's position is the reverse of
the truth.

In the remarks in the Western Traveller,
at the close of the Northern Traveller, we
find the following - "The opinion has been
entertained that, in corresponding latitudes,
the temperature is higher in Mississippi
valley, than between the mountains and
the Atlantic. This we apprehend is an
error to the establishment of which, the writ-
ings of Volney and other theorizing travellers
have contributed". And in page 392
it is said "the mean cold of winter is
greater along the centre of the valley than
in corresponding latitudes, near the ocean,
by 2 or 3 degrees". The opinion of the higher

~~Method of finding a Line of Latitude~~
 temperature of the Valley did not originate with Volney; for I heard it advanced long before he visited this country; and if we impute error to him in this respect, it is believed he is as near the truth as the writer of the western traveller.

The fact that the western side of Continents north of the torrid zone is warmer than the eastern in corresponding latitudes, from the prevalence of westerly winds over the northern hemisphere, is pretty well established. In the Oregon territory, between the latitudes of 40° & 60° , not only the winters, but the summers are said to be very mild, like those on the west coast of Europe in similar latitudes. If then be the fact, it would be very singular if the Climate, as we proceed west, should be found colder than eastern places. The rocky mountains may in some degree effect the climate of the Mts. valley, but it is believed the westerly winds, as a general cause, must predominate, and render the western regions more mild than those of the east. The subject requires examination.

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144. Steam Boat Disasters

37

On the 25th of October the Steam Boat Royal Jane, which plies between St Johns and Portland, took fire in Pinobscot Bay, about two miles from Fox Island, and was consumed with from 26 to 30 passengers. The N^o on board was 90 to 100; about 60 were taken off by the custom Revenue Cutter. The fire took about 2 o'clock P.M. as the Boat was at anchor, for the purpose of filling the boilers.

The bursting of boilers ^{then} is not the only difficulty attending these vessels; the quantity of fire on board will forever expose them to ~~fire~~ accidents, even with the utmost care. Will it still be believed that these vessels can be safely employed in a naval action, with ^{the} requisite quantity of gun powder on board? The supposition is preposterous.

Another of these vessels was wrecked on Pea Island Beach, on the coast of North Carolina, about the 15th of October last. She was called the William Gibbons and had on board 120 people, all of whom were safely landed, but suffered severely before they could be relieved. The Boat was driven to land by a tremendous gale.

38
145

A

SERMON

PREACHED TO THE FIRST CONGREGATIONAL SOCIETY IN

DEERFIELD MASS.

AND IN THE HEARING OF SEVERAL

INDIANS

OF BOTH SEXES SUPPOSED TO BE DESCENDANTS OF

EUNICE WILLIAMS,

DAUGHTER OF

REV. JOHN WILLIAMS,

FIRST MINISTER OF DEERFIELD.

AUGUST 27, 1837.

JOHN FESSENDEN.

PUBLISHED BY REQUEST.

GREENFIELD MASS.
PRINTED BY PHELPS AND INGERSOLL.
1837.

to be the grand-daughter of Eunice, adding that she perfectly remembered her grandmother ; a fact not improbable, inasmuch, as Eunice being only seven years old when carried away, and having as is well known lived to a great age, this woman must have been about twenty at the time of her decease, on the supposition that she attained an age equal to her own. If these persons truly inherit the name of Williams according to their statement, their kindred in Deerfield must be numerous, and it is but just to say, that those of the name were not slow to admit their claim, but uniformly called them "our cousins." During their short stay, a little more than a week, they encamped in the vicinity of the village,—employed their time not otherwise occupied, in making baskets,—visited the graves of their ancestors, the Rev. Mr. Williams and wife, and attended divine service on Sunday in an orderly and reverent manner. They refused to receive company on the Sabbath, and at all times, and in all respects, seemed disposed to conduct themselves decently and inoffensively. During their sojourn with us, partly perhaps on account of the unusual nature and circumstances of the visit, and partly no doubt on account of the rarity of any of the descendants of this race of people in our vicinity at the present day, their encampment was frequented by great numbers of persons, almost denying them time to take their ordinary meals, but affording them, as if to make amends for such inconvenience and privation, a ready sale for their fabrics. On the 1st of September, they decamped and commenced their homeward progress towards Canada. For many interesting particulars relating to the family of the Rev. Mr. Williams, the reader is referred to a Biographical Memoir recently published in a neat and convenient form by Dr. S. W. Williams of Deerfield. J. F.

S E R M O N .

ACTS, XVII. 26. And hath made of one blood all nations of men for to dwell on the face of the earth ; and hath determined the times before appointed, and the bounds of their habitation.

THE fact asserted in the text, my friends, is one which the mere light of nature hardly reveals to us with any sufficient assurance, and it is one, which on this account, we should be slow to credit without some higher authority and additional reasons. The varieties which human nature presents in climates remote from each other are very great and very striking, and are such as will not allow us, on first inspection without a large share of credulity, to acquiesce in the belief of a common origin. The Scriptures, however, assert a common origin for all the differing tribes and races of men, that people the earth. They pronounce all the various kindreds of mankind to be the posterity of the same primitive pair. Naturalists and Physiologists, moreover, who have gone most deeply into the investigation of this subject, the direction of their inquiries, in all probability, being in no small degree, determined by the suggestions they had derived from the Scriptures, have in general, I believe, arrived at the same conclusion.

It will be the object of this discourse, my friends, in the *first* place, to state some of the reasons, which, on inquiry present themselves to our minds, and which lead to the well founded belief that all mankind are of one blood.

In the *second* place, I shall endeavor to bring into view, the advantages of such an appointment, and the occasions of satisfaction that should arise on finding such a supposition to be well founded.

I. What reason have we to suppose that all mankind are of one blood? In entering upon this inquiry it might seem a suitable question to ask ;—What reason have we to suppose anything else? The general sentiment of mankind ;—The sentiment which seems all along to have possessed the general mind, without any considerable manifestation of scruple or dissent, is undoubtedly in favor of a common origin. 'This sentiment, as I shall endeavor to show, constitutes a reason of no small weight, towards establishing the truth of such a supposition. It is nevertheless clear, that the reasons for supposing that the human race involves several distinct species are at first view very strong. The fact that various races of men are found in regions of the world apparently quite remote from all practicable means of intercourse, and without any previous knowledge of each other, while widely differing in complexion, formation and habits of life, has appeared unaccountable to many on the supposition, that all the varieties of the human family, proceeded from the same original pair. This supposition, on these accounts, has never been universally credited, but always disallowed by many sound thinkers and philosophical inquirers.

1. One reason, therefore, I maintain, arising out of the subject itself in favor of the supposition of a common origin, is the general prevalence of such a sentiment among the mass of mankind, notwithstanding the obvious reasons for adopting a different hypothesis. We may ascribe this sentiment to ancient revelation, tradition, prejudice, authority, or immemorial belief, the common parentage beyond a doubt of the largest amount of our most trusted opinions, as it is also the undeniable source of many vulgar errors ; but one nevertheless, which goes back to an origin as ancient as the instincts of nature itself, and is in the majority of cases, perhaps, as genuine and authentic. The Mosaic account of the creation of man, which professes to ascend the stream of tradition to the time of Adam, must have always been

current in the world, at least among the Jews. It must have been current from the time of its existence; and had such an account of the matter been first made known to men at a time when the occasion for calling it in question, was the same, which has existed in later times, is it probable that it would have been received without hesitation, or that it would have become current without the existence of any counter statement or theory? There is no other statement or explanation of the subject, nor ever has been, which possesses the slightest claims to credibility. The human mind is utterly baffled and at a loss how to proceed in any attempt to give a different explanation of this matter from that which the Scriptures contain. A different account would lead to skepticism, in regard to the first great Cause and Creator of all things. We could no longer say with the Prophet;—"Have we not all ONE FATHER, hath not ONE GOD created us?"—The general testimony of such a sentiment, therefore, unimpaired by any other of the least probability, constitutes a reason of very considerable weight in favor of the supposition of a common origin.

2. Another reason, and one perhaps, which constitutes the most conclusive and incontrovertible argument, in support of such a theory, is the following. It is an invariably acknowledged law of nature that none of the distinct species of animals, and none of the distinct species of vegetables, are capable of being mingled, blended or assimilated in the natural progress of propagation or reproduction. In the Mosaic account of the creation, it is declared "the earth brought forth grass and herb, yielding seed after its kind, and the tree yielding fruit after its kind, whose seed was in itself after its kind." And this law seems ever to have been a permanent appointment of nature and of God, with respect to all the orders of beings on the face of the earth. The insuperable barriers, thus fixed in their original constitution, by which all the animal and vegetable productions of the earth

are ever preserved from intercommunication, confusion and extinction, as we see to be the fact in the uninterrupted continuation of each distinct species, are too manifest to escape the most casual observation ; and they afford a most valid and conclusive argument in support of a common origin for each particular kind, and such an origin as revelation declares. And against the validity of this argument, we may rest assured, that the several varieties of the human family do not present the slightest countervailing evidence.

3. With respect to the varieties, which actually exist in the human race, if it were an object to account for these physical diversities, on the supposition that all mankind are of one blood, much might be said by way of satisfactory explanation. Climate, together with the changes produced upon the human constitution, by diet, air, soil and habits of life, in regions exceedingly unlike each other, is known to be attended with peculiarities which are very considerable and very observable. This fact becomes manifest in instances of migration, in the case of the same individuals. And if it be said that the original varieties of the human species do not become obliterated, by change of climate even after a succession of generations, the same may be said with respect to other animals. Other animals of the same species, present very strongly marked varieties in colour and in sundry respects, while we never think these characteristics any indication of different species, however wide the circumstances of diversity may be ;—nor does there appear to be any evidence that the animals themselves are in any degree sensible to these diversities. Do we not observe at all times among our domestic animals, similar and as great diversities in external appearance, as those by which the inhabitants of Europe and Africa are distinguished, while we make no distinction and signify no preference, on these accounts, and while these peculiarities, seem to be unknown to the animals in which they are observed ? The sensibility of man-

kind to these diversities existing in their own species, is perhaps rather acquired than natural. It is like what takes place in matters of opinion and faith. In sentiment men are apt to be more concerned about points of difference which are not material, than they are about those which are most essential, and which are manifestly most incapable of being brought into agreement. But this concern, even the beasts of the field, would teach us, is not a law or dictate of nature. "There is no flesh," says the sensitive and complaining Cowper, but with much truth and humanity, as well as severity of satire—

There is no flesh in man's obdurate heart.
 It does not **FEEL** for man; the **NATURAL** bond
 Of brotherhood is severed.
 He finds his fellow guilty of a skin,
 Not coloured like his own: and having power
 To enforce the wrong, for such a worthy cause,
 Dooms and devotes him as his lawful prey.
 Lands intersected by a narrow frith,
 Abhor each other. Mountains interposed,
 Make enemies of nations, who had else
 Like kindred drops been mingled into one.
 Thus man devotes his brother and destroys:
 And worse than all and most to be deplored
 As human nature's broadest, foulest blot,
 Chains him, and tasks him, and exacts his sweat,
 With stripes, that Mercy, with a bleeding heart,
 Weeps, when she sees inflicted on a beast.

When we examine the subject with attention and candour, my friends, there is in nature apparent but very little foundation for supposing that the various races of mankind, are any other than the different branches of the same parent stock. And the advantages of such an original appointment must be palpably evident to every reasonable mind, and it must be an occasion of the greatest satisfaction to have become firmly established in such a faith.

II. We proposed, in the second place, to bring this part

of our subject under consideration. There are essential advantages in the fact, if it be one, that all mankind are of one blood; and the assurance that such is the fact, should be occasion of great satisfaction. For if men were by nature, what they have become by custom and various accidental causes, no remedy could be hoped to arrive for those occasions of disaffection and hostility, by which they are divided from, and animated against each other,—no remedy short of that which should effect the extermination of one or the other of the contending parties, whose interests should seem least capable of being reconciled. If communities of men, who are made alien to each other by strong lines and marks of diversity, and who are accustomed to regard each other with the utmost jealousy and aversion, had reason to believe that these marks of distinction and sentiments of enmity were founded in nature,—were a part of their original constitution,—what hope could they entertain that such a terrible evil,—such a wasting scourge, could ever be mitigated or removed? The weaker party must ever regard themselves, like sheep exposed to the ferocity of wolves, and the stronger party, must regard their defenceless victims, as wolves regard their natural prey. On such a supposition, men would conclude that these sentiments and practices of implacable hostility and violence were a necessary part of that business of life for which they were created, as much as for any other purpose, which contributes to their preservation or welfare. Indeed they might be led to suppose that the children of men had as many different Creators as there were different races of men, and that their respective Creators were as hostile to each other and to each other's creatures, as the creatures themselves, in each separate race or clan, were to those of another race or clan. From this gloomy, repulsive view of human nature, how refreshing the transition to that account of the matter, which is presented in revelation! Revelation gathers all the scattered and various

kindreds of the earth, into a common family,—traces all the countless diversities of human shade and feature to the same primeval origin,—finds the same life-blood circulating through the veins of every human creature, whether his skin be blanched like the snows by the chill atmosphere of the north, or darkened to a sable hue by the scorching rays of a torrid clime,—purifies and reconciles all the discordant and conflicting customs and religions of Greek and Jew, Barbarian and Scythian,—invites them all to one hospitable roof,—the celestial mansion,—the everlasting habitation of the same Common Parent,—as brethren of a single, united, harmonious household, as heirs and joint-heirs to a sufficient, a joyous, an imperishable inheritance! Such is the account,—blessed be the God and Father of our Lord and Saviour Jesus Christ, who of his abundant grace hath begotten us again, to a new and better existence, that the thanksgivings of many might redound to his glory,—such is the account which Revelation gives of the human family. It designs to break down every middle wall of partition, by which the interests and happiness,—the hearts and hopes,—the labours and advantages of mankind are cleft asunder. It proclaims glad tidings of great joy to the world, peace throughout the earth, and good will among all mankind. It declares that all the kingdoms of this world shall become the kingdom of our God, that all nations and people, all kindreds and tongues, that all the children of God from the least to the greatest, shall know the Lord, and see his salvation. “Every valley shall be filled, and every mountain and hill shall be brought low: and the crooked shall be made straight, and the rough ways shall be made smooth; and all flesh shall see the salvation of God.” All differences shall be reconciled and removed. The disadvantages of the lowly and depressed shall be taken away,—the unjust pretensions of the exalted and oppressive shall be humbled,—the light of the day-spring from on high shall penetrate to every condition,—

shall warm every heart,—knowledge and joy, righteousness and benevolence shall be diffused, till all shall feel their power, share in their benefits, rejoice together, possess the earth and delight themselves in the abundance of peace. “Fear not, for I am with thee, saith the Lord, I will bring thy seed from the East, and gather thee from the West; I will say to the North, Give up; and to the South, Keep not back; bring my sons from afar, and my daughters from the ends of the earth. Even every one that is called by my name; for I have created him for my Glory, I have formed him, yea, I have made him.” Such are the promises, and such the fruits of Christianity. Mankind would never have attained to this assurance, this prospect of the human condition and destiny, on any inferior authority. Blood and carnage must otherwise deform and deface the scenes of earth, to the end of time. The scenes of this world have been more or less saddened and disfigured in this way from the beginning of time, and until the leaven of Gospel truth, shall penetrate the whole mass of humanity, transform and purify the ferocious and vindictive passions of the human heart, disclose and invigorate the natural and inviolable ties of a common brotherhood, bring into universal recognition the principle asserted by our Saviour, who looking around in the presence of the disciples upon the heterogeneous multitude, which constituted his countless audience, exclaimed, “Behold my mother and my brethren! For whosoever shall do the will of my Father which is in heaven, the same is my brother, my sister, and mother;”—until this, “fulness of the blessing of the gospel of Christ” shall be accomplished, I say, such scenes will continue to be exhibited in some measure to the end of time.

In the consideration of this subject, my friends, my attention has been somewhat impressed and directed by a regard to the unusual visit which during the past week, has been made to our village. At this stage in the progress of our

history, such an event must be one of rare occurrence, and little to be expected ; and when we consider the pious and filial motive of ancestral veneration in which it purports to have originated, when we consider the sanguinary and harrowing transactions of olden time, which alone could make such a motive possible at the present day, when we consider this remarkable illustration of the truth declared in our text, by which the blood of two races so distinct and unlike, and once so hostile and irreconcilable, has been blended together, when moreover, we consider the peculiar associations and historical memorials of Indian warfare, by which this place is remarkably distinguished, this event certainly constitutes a very singular incident in the train of our ordinary experience, and amply justifies, as I conceive, that strong expression of interest, curiosity and attention, which has been so generally manifested. That this visit should have been undertaken principally from the not illaudable motive of paying respect to the grave of an ancestor, long since departed, and that ancestor our own no less than theirs, that such was the motive, I say, if we consider a well known trait of Indian character, seems highly probable. Such a motive is a sacred one,—it possesses a measure of dignity which commands our respect, and excludes all suspicion of selfish and mercenary views,—of unworthy and mendicant expedients. The spirit too with which this occasion has been met, on either side, so far as my observation enables me to speak, has been such, as I should think would be mutually satisfactory. Our guests have been received in a spirit of unaffected and unostentatious hospitality, suited to their condition, their wants, and their tastes. On their part, there has not appeared to be any evidence of unreasonable expectation or extravagant demand. Their wants seem to be few and humble, like those of the children of the forest at all times ; and the resources to meet them seem to have been provided for, within themselves and in their own way. It is to be hoped, that their stay which promises to be short will continue to be

such, as will enable them to depart with friendly feelings and to carry with them grateful recollections ; and such that we may hereafter remember it without any sense of regret, or any measure of self-reproach. All this were to be desired, even if we felt no confident assurance, that such a conduct was demanded by the genuine truth of the statement, alleged as the occasion for the visit. As it respects this question however, I do not think there is much reason to entertain any considerable doubt. There might be a mistake, and some occasion for better evidence would exist to meet the requisitions of the law, if there were an inheritance in dispute. But an intention to deceive, under the circumstances, I should be extremely loath to suspect. Nor can there be assigned any consideration of profit at stake, which could be a sufficient inducement for a journey so formidable, which promised so little, and where nothing of the kind appears to be pretended or expected. I have no hesitation in acknowledging my belief, that the professed motive for this undertaking was the real one, and would cheerfully meet it with a cordial salutation, with the hand of friendship, with the pipe of peace. I would meet the tawny children of nature, as the swarthy Æthiopian was greeted by an apostle of our Lord, who was prompt to fulfil his reasonable request, and to speed him on his way rejoicing. I would say as ye have buried the hatchet whose traces still remain visible on the ancient portal, to remind us of by-gone days of blood and violence, of suffering and captivity, so sleep the sword by which those wrongs,—if wrongs they were,—have been fully avenged. I would do more,—I would recognize with pious humility and solemn reverence the workings of that mysterious providence, which has mingled your blood with ours, and which consideration, while it awakens a painful sentiment of the heart-rending scenes, the distressing trials, and protracted sufferings by which such a consummation was effected, nevertheless admonishes us that God, who is no respecter of persons, hath made of one blood, all nations of men, and hath

determined the times, the places, and circumstances, in which they should live, in order to accomplish his designs of impartial benevolence and general good. We look at the mouldering moss-covered house of strength, which has survived the perilous times of which we are speaking, and as we behold the deep indented marks of savage and mortal weapons, the record of "dreadful summoners," at dead of night, storming the bolted doors of maternal tenderness and sleeping infancy, we shudder at the thought of those barbarous cruelties, which were preparing for the defenceless and unsuspecting inmates. But we are aware that it will be said on the other side, "Judge not, lest ye be judged." The messengers from Dedham, first employed to seek out this location, in their report speak as follows ;—" Providence led us to that place. It is indeed far away from our plantations, and *the Canaanites and Amelekites dwell in that valley*, and if they have any attachment to any spot on earth, must delight to live there. But this land must be ours. Our people have *resolute and pious hearts, and strong hands, to overcome all difficulties. Let us go and possess the land.*"* Whether the spirit of enterprise that expresses itself in these terms is in accordance with that commandment, which forbids us "to covet any thing which is our neighbour's," and whether in accomplishing its purpose, it encountered severer trials than it ought to have expected, is a fit subject for our serious reflection. Meantime let us rejoice that we live under such favorable circumstances, to ponder the record of our fathers' trials, and to reap the benefit of their toils, and let us adore that wise and benevolent Providence which "from seeming evil educes good;" let us trust, that those hard allotments, which have yet been abundantly prospered, were of a piece with all those probationary dispensations by which the appointments of God for the benefit of his creatures are realized and effected.

* Worthington's History of Dedham—p. 25

